

ChessKid.com

Curriculum for Scholastic and Classroom Chess



Teacher's Guide

Welcome! With the ChessKid.com curriculum, we have created an original, kid-friendly way of learning the game of chess. While acquiring knowledge of the rules of chess, understanding the fundamentals, and learning advanced strategies and tactics, coaches and beginning chess players alike will enjoy working through these lessons.

To create a system that would be both kid-and-classroom-friendly, we brainstormed, outlined, and designed a curriculum format to support one single goal:

Develop a child's ability from no knowledge of the game to the level of an experienced scholastic chess player.

We keep the language simple in this curriculum. While we believe children with a fourth- or fifth-grade reading level could work through this curriculum on their own, the most practical application of this curriculum is instructor-guided, taught in a classroom format, and used in conjunction with training tools and video lessons on ChessKid.com.

With this latest edition, we meet the needs of educators looking to provide their chess club/class with a 21st-century skill-building environment, one with flipped classroom capabilities that will help even the newest to chess. Our team worked closely with Common Core experts and experienced classroom teachers to link our content directly to the new standards for each grade on a national level. Those familiar with our first edition will take note of the revamped Teacher's Guides and Essential Questions, created to furnish lesson plans that align correctly with the Common Core State Standards implemented in schools for Partnership for Assessment of Readiness for College and Careers (PARCC). Our Pacing Guide provides two options—one for full, every day classroom integration, and another for after school/enrichment program formats.

We use Bloom's Taxonomy leveled questioning, provide practical advice, and suggest ways to keep the experience fun throughout the Higher Order Thinking learning process. We provide practical tips to help both the non-experienced chess teacher and the seasoned chess coach. Every lesson, diagram, practice page, and activity work together to cover all the key concepts a beginner chess player needs.

We strongly recommend that coaches (whether teaching groups or individuals) review each lesson in its entirety first before presenting it to their student(s).

Good luck, and have fun!

Sincerely,
International Master Daniel Rensch
(www.ChessKid.com username: PoppaBear)
Vice President of Content and Professional Relations, Chess.com LLC.



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Section 1

Section 1: Learning to Play



Introduction

Introducing the Game and Learning the Chessboard



Introduction

Part 1: A Brief History Of The Game, Basic Terminology, and Scorekeeping (Algebraic Notation)

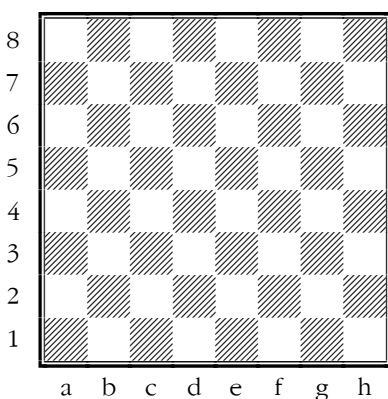
Key Concepts

- A brief history of chess.
- The basics of using a chess board.
- Chess terminology: speaking the language of chess.
- Scorekeeping/notation (keeping track of a chess game).

Chess is one of the oldest games in the world, and may be the oldest board game. Its origins stem back to India, over 1500 years ago, with the unclear but widely accepted view that the original versions of chess were invented around 600 A.D. Though it's believed to have started in East Asia, India, and Persia, the modern version of the game—meaning the rules we use today—did not begin taking shape until chess moved west, into France and areas of Southern Europe, around the 15th Century.

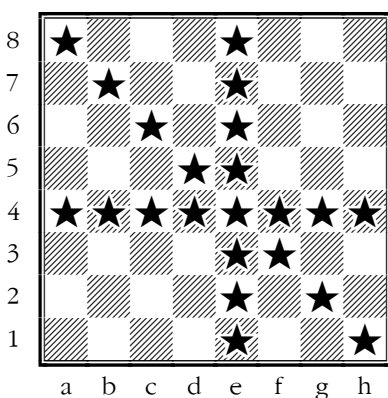
Tournament-style chess, as we would recognize it today, has been played since the mid-1800s. The first ever World Championship Match was held in 1886. Many exciting games have been played, and many great champions from all parts of our world have enjoyed and grown to love the game of chess. We hope you will too!

The Chessboard: 64 squares, divided by files, ranks and diagonals.



The game of chess is played on a perfectly square, 8x8 board. There are 64 squares on a chessboard, alternating light and dark (White and Black).

When you face a chessboard, the bottom-right corner should always be a White/light square, either from White or Black's perspective. This is very important when setting up the pieces. To help kids remember this, we use a fun phrase: "Before we fight, you must have White/light on the right!" Of course, we are only fighting on the chessboard!



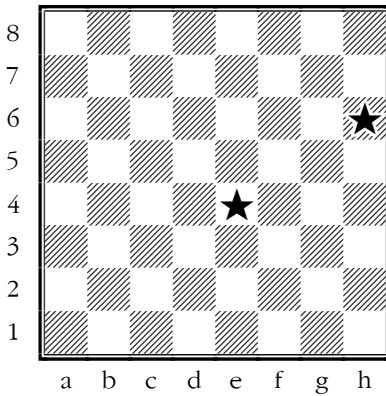
The chessboard, with file, rank, and diagonals.

The chessboard is divided and described in three different ways. We use the term *file* to describe the letters (a-h) and the squares that go up from them. Every square on the e-file has been highlighted with stars to show this. We use the term *rank* to describe every square in a straight line from where the numbers (1-8) begin. Every square along the fourth rank has been highlighted to show this. We use the term *diagonal* to describe every square moving corner-to-corner (h1-a8 is a diagonal); every square along the h1-a8 diagonal has a star.

Essential Question, Level I: Knowledge

Using a chess board, how would you show someone the other longest diagonal on the board: a1-h8?

Scorekeeping: the basics of keeping track of a game with algebraic notation.



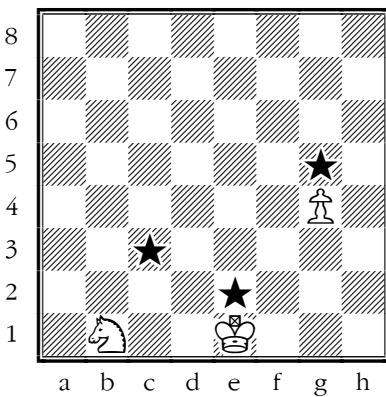
In order to work through this curriculum or play in a chess tournament, you will need to understand how to read a chessboard. Though there have been many different methods used to keep track of a game throughout history, the best, most efficient method we use in chess today is called Algebraic Notation.

Each chess square has a unique address, a name that is different from that of every other square. If you look down from the square, you'll see a letter, and if you look to the left of a square, you'll see a number. Each square's special address is that letter and number combined. When using algebraic chess terms, we always say the letter first. There are stars on e4 and h6.

Essential Question, Level I: Knowledge

Can you write the algebraic notation for one of the squares that is not starred? Are there any other subjects in schools that teach you to use a graph like this chessboard?

Scorekeeping: how to use algebraic notation.



We use Algebraic Notation in real games to keep a record of each move we make. We do this so that we can explain our games and positions to other players and coaches afterward, and so that there is proof, in the event of an argument, that the rules were followed in that chess game.

Here are some examples of how algebraic notation is used:

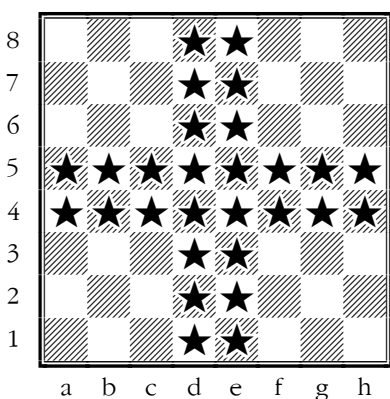
- Ke2 (king moves from e1 to e2);
- Nc3 (Knight moves from b1 to c3, and we use “N” for Knight);
- g5 (we don't use the letter “P” when a Pawn moves forward, but instead only write the square it moves to); etc.

Use the uppercase first letter of the piece that is moving for all pieces besides the Pawn, and use “N” for Knight. When capturing a piece, write an “x” between the uppercase letter and the square. Example, if there were a piece on c3, moving the Knight to that square would be written as Nxc3.

Essential Question, Level I: Knowledge

What are the letter abbreviations for each piece? Using algebraic notation, write 10 moves for pieces being moved to random squares of your choosing on the board.

More chess terms: Kingside, Queenside, White's side, and Black's side.



You will learn much more about how to read and use a chessboard as you work through our curriculum, but you now know the basics of chess terminology—the words we use while playing or describing a chess game.

The final fundamental chess terms you need to know in order to study and learn from our curriculum are as follows:

- Kingside—this term describes every square and piece that is on the board from the e-file (the king's file) over to the h-file
- Queenside—this references the entire board to the left of the d-file all the way to the a-file
- White's side—the first to the fourth rank
- Black's side—the fifth to the eighth rank

Congratulations! You now speak chess!

Essential Question, Level I: Knowledge

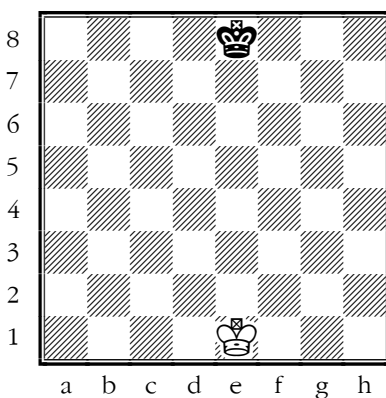
Why do you suppose the squares from the e-file to the h-file are referred to as the kingside? And why are the squares from the d-file to the a-file considered the Queenside?

Part 2: Setting Up the Board and Learning the Value Of the Chessmen

Key Concepts

- Setting up a chess board from start to finish.
- Piece values (the point value of each piece).

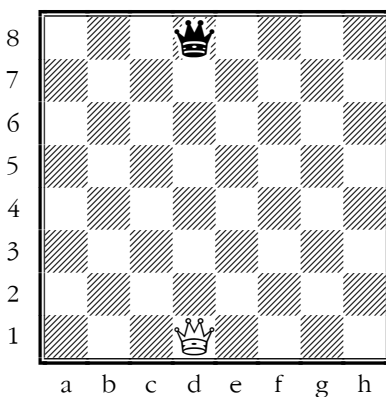
How to set up a chessboard, from start to finish.



Each King is placed on its starting position: the White King starts on e1, and the Black King starts on e8. Note the kings start on the opposite color square of their army: the White King on a Black square and the Black King on a White square.

Essential Question, Level I: Knowledge

What is the starting color for each king?

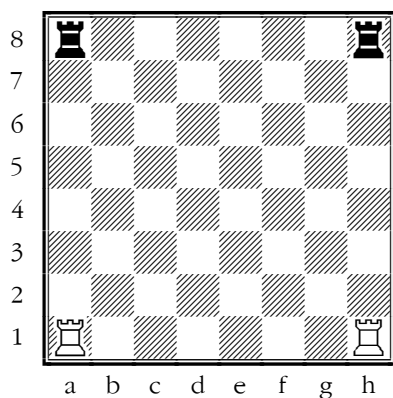


Each Queen is placed on its starting position: The White Queen starts on d1, and the Black Queen starts on d8. Note the Queens start the game on their color: the Black Queen on a Black square; the White Queen on a White square.

A fun way to remember to place the Queen on her own color is to say, "In the old days, all Queens had to make sure that their dress matched their shoes, especially when going to the ball!"

Essential Question, Level I: Knowledge

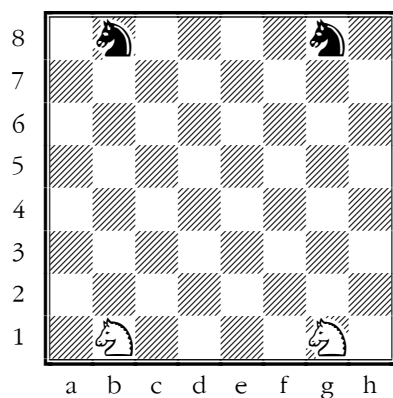
What is the starting color for each Queen?



Each **Rook** is placed on its starting position in one of the four corners of the board: White Rooks are placed on a1 and h1, and Black Rooks placed on a8 and h8.

Essential Question, Level I: Knowledge

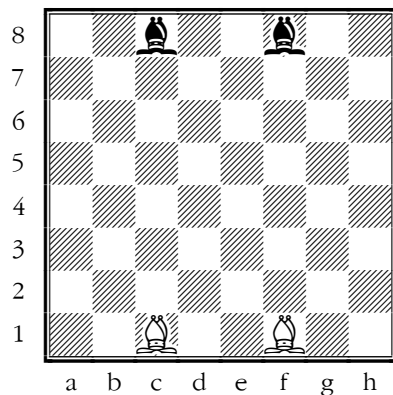
Can you write the algebraic notation for each Rook in this diagram?



Each **Knight** is placed on its starting position: White Knights are placed on b1 and g1, and Black Knights are placed on b8 and g8. The Knights stand next to the Rooks.

Essential Question, Level I: Knowledge

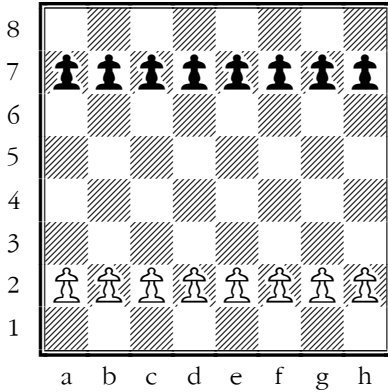
Can you write the algebraic notation of each of the Knights?



Each **Bishop** is placed on its starting position: White Bishops are placed on c1 and f1, and the Black Bishops are placed on c8 and f8.

Essential Question, Level I: Knowledge

Can you write the algebraic notation of each Bishop?

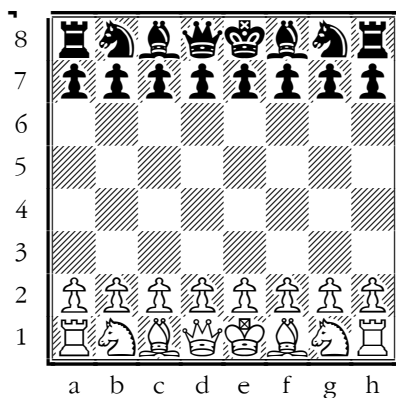


Each player starts with eight **Pawns**. White's Pawns are placed along the second rank from a2-h2, and Black's Pawns are placed along the seventh rank from a7-h7.

Essential Question, Level I: Knowledge

Can you state which rank the White Pawns begin on and which rank the Black Pawns begin on, using algebraic notation?

The Chessboard is complete: the basic rules and introduction to the chessmen.









Chess is a board game played between two players. Each player takes a turn to move, with White always moving first. The turns alternate: a player must move when it is his or her turn, every move after White makes the first move. The diagram you see is the starting position to every game of chess. White's pieces are always set up along the first and second ranks, while Black's pieces occupy the seventh and eighth ranks.

There are 32 chessmen: 16 chessmen for White and 16 chessmen for Black. A chessman is either a piece or a Pawn. Each player starts out with one king, one Queen, two Rooks, two Knights, two Bishops, and eight Pawns.

Essential Question, Level I: Knowledge

Could you recall the setup of the board if it was wiped clean? Show your teacher that you can do this!

Piece values.

	The Game
	9pts
	5pts
	3pts
	3pts
	1pt

Use your knowledge of the value of the chessmen to make good choices during a game.

Over the years, experience has taught us that some pieces are more powerful than others. We have tried to capture that idea by assigning point values to the different chess pieces. These points are used to make decisions. “Should I give up my Queen for that Pawn?” is an example. Once you know and understand the point values, you will know the answer to that question! Students also first need to use this knowledge in Lesson 4.

Though a game can still be won by someone who is losing in total points, it is not likely. This will be reiterated in Lesson 4. You win a chess game through checkmate, not points, but points are an important guideline for making decisions. They help you choose and estimate who has more or less material (more powerful pieces) in any given position.

LESSON 1

Lesson 1: Meet the Players



Overview

Lesson 1 of our curriculum introduces students to all the individual players of a chess game. Following the basic introduction to the board and chess language in the previous lesson, here students will learn that each piece has a different set of rules and movements.

Mastering how to move each piece takes time, practice, and patience. Some pieces are trickier than others, and can take some students longer to learn. Once a student knows how each piece moves, he or she will be able to play a real (legal) and full game of chess.

Part 1 focuses on explaining to students how three of the less tricky pieces move: the rook, the bishop, and the queen. Students will learn to recognize the similarities between these three pieces. Part 2 turns to the king, the knight, and the pawn, which require a bit more practice to understand. Students learn how each piece is unique and how each contributes to the game.

The practice pages and classroom activities are especially important at this stage, as students must grasp the basic movements of each piece if they are to move on to further lessons in this curriculum. The ability of the student to take the information provided by the coach and apply it when asked to demonstrate knowledge of the skills (in our Essential Questions) aligns with the Common Core State Standards: Geometry and ELA-Literacy: Speaking & Listening.

Teacher's Guide

The goal of the first lesson is to help your students learn how the pieces move in a fun, kid-friendly way. Experience has shown that trying to play a complete game of chess on the first day of class can be too much for most children, especially younger ones with no previous chess experience.

We recommend teachers use our activities and practice pages to break down the learning process of each chess piece into manageable chunks, especially for younger students.

The Pawn and the Knight are typically the hardest pieces to learn, which is why we teach them last. By the end of the second lesson, your students will have the most practice playing with Pawns and Knights, and will hopefully be comfortable enough with their movement to attempt some practice games.

Practical Notes and Advice—Lesson 1

- Use the practice pages after having taught each piece during class to allow for individual practice of each one's specific movement.
- Allow younger students (4-6 years of age) to draw lines and color the worksheets to display how each piece moves, as a practical way of engaging their attention.
- Point out that a Queen is essentially a Rook and Bishop combined. Because the Queen can move like a Rook, she has the ability to have the power of two Bishops (either light-squared or dark-squared) at any given time.
- Place enemy Pawns on all the squares that a Knight can capture to reinforce the concept that a Knight only captures pieces that occupy the square it lands on, and not the pieces it "jumps over" along the way.

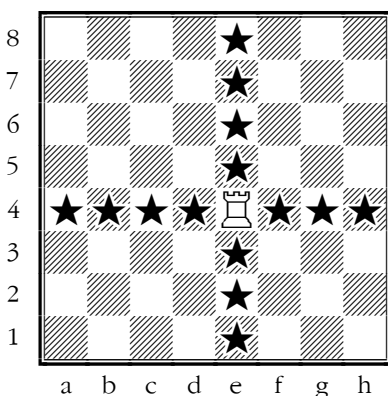
Lesson 1

Part 1: Introducing the Rook, Bishop, and Queen

Key Concepts

- How to move your Rook ♖, Bishop ♗, and Queen ♕.

Meet the players: the Rook.



The ROOK moves as far as he likes: up, down, left, and right.

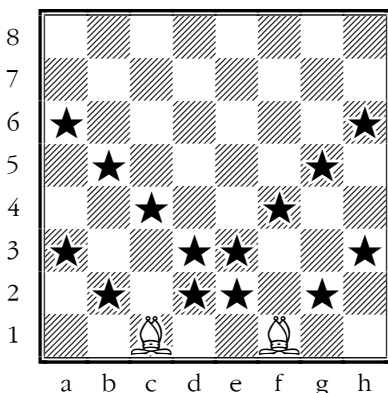
The Rooks begin in the corners of the board and are often slow to get started. But they are very powerful pieces, controlling whole "ranks" (rows) and "files" (columns).

The Rook is the piece shaped like a castle. It moves as far as it wants (or until it encounters an obstacle, such as the edge of the board, or a friendly piece) in horizontal or vertical directions, either up or down the board. Like all pieces besides the Pawn, the Rook captures in the same way that it moves. If it encounters an enemy piece, it can take that piece off the board and occupy its spot. But it cannot continue its move after capturing (meaning it cannot 'hop over' a piece while capturing); it must stay in that spot until the next turn.

Essential Question, Level I: Knowledge

Can you select all of the squares where a centrally located Rook on e4 can move?

Meet the players: the Bishop.



The BISHOP moves as far as he likes along slanted diagonals.

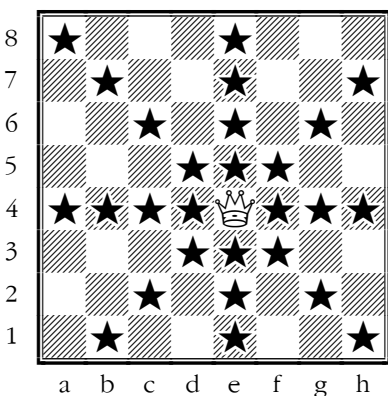
The Bishops begin on the squares f1 and c1, flanking the King and Queen. Bishops move diagonally as far as the edge of the board (or until they encounter another piece). They capture the same way that they move, and—like the Rook—they cannot jump over their teammates or enemy pieces.

Due to its diagonal moves, each Bishop is limited to one color of squares for the whole game. Thus, at the start of the game, each player has a "light-squared" and "dark-squared" Bishop. If you see children playing and one side has more than one Bishop on the same color of squares, most likely something went wrong earlier in the game! The only way that could happen legally is if the player promoted a Pawn to a Bishop (see Lesson1, Part 2, on Pawn promotion).

Essential Question, Level I: Knowledge

What type of line does a Bishop move in on the board?

Meet the players: the Queen.



*The QUEEN can move as far as she likes: up, down, left, right, **and** diagonally. She is like a Rook and Bishop combined!*

The Queen is the most powerful piece on the board, because she can control the most squares at once. The Queen moves vertically, horizontally, *and* diagonally, in any direction, as far as the edge of the board (or until another piece is encountered).

Thus, the Queen can move like either the Bishop or the Rook, according to her wish at the moment. The only thing the Queen cannot do is jump over pieces (which is something only the Knight can do) as you will learn in Part 2.

Essential Question, Level I: Knowledge

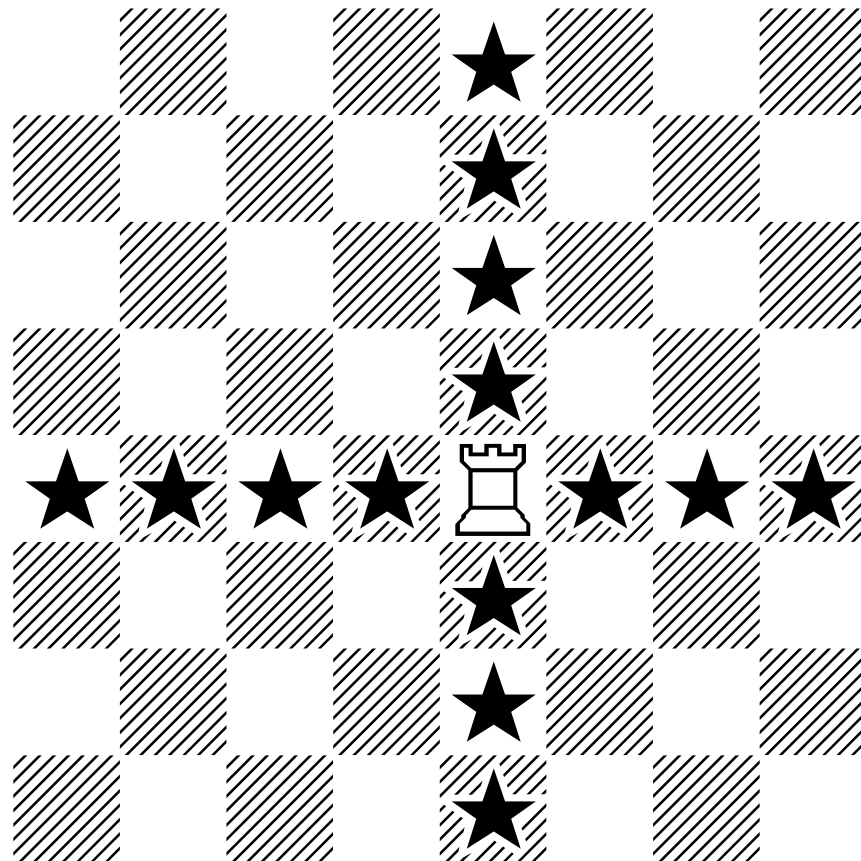
How would you describe the Queen, and how it moves, to a newcomer in chess?

Practice Pages

Practice 1: the Rook

The Rook moves as far as he likes along files and ranks, up and down in any one direction.

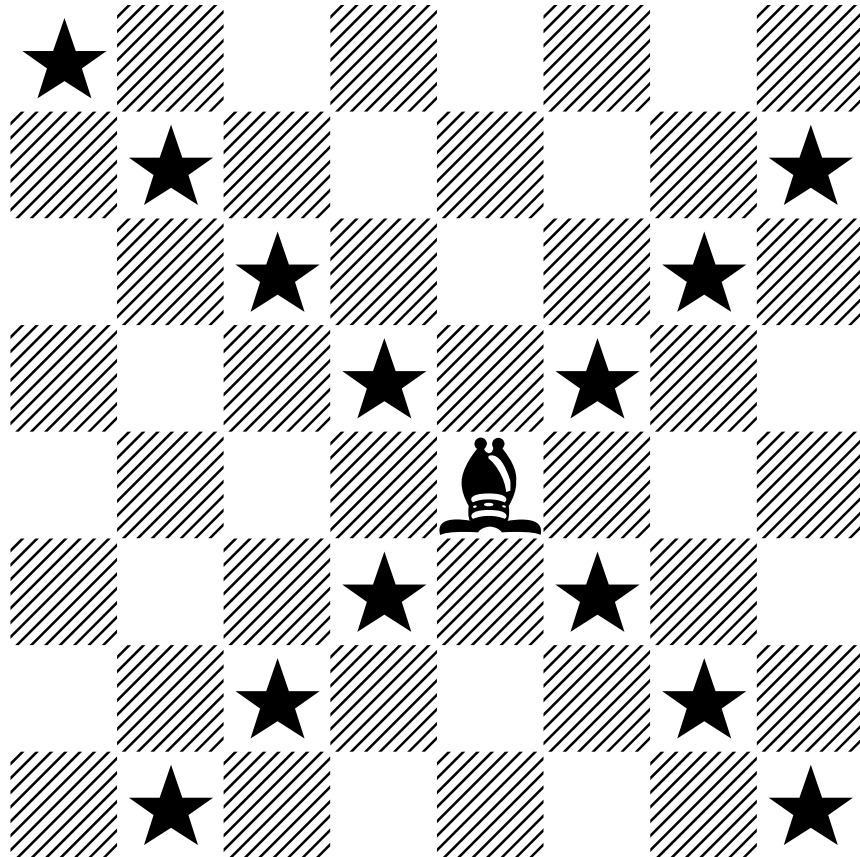
Practice moving the Rook.



Practice 2: the Bishop

The Bishop moves as far as he likes along diagonals,
and always keeps to the same color square that he starts on.

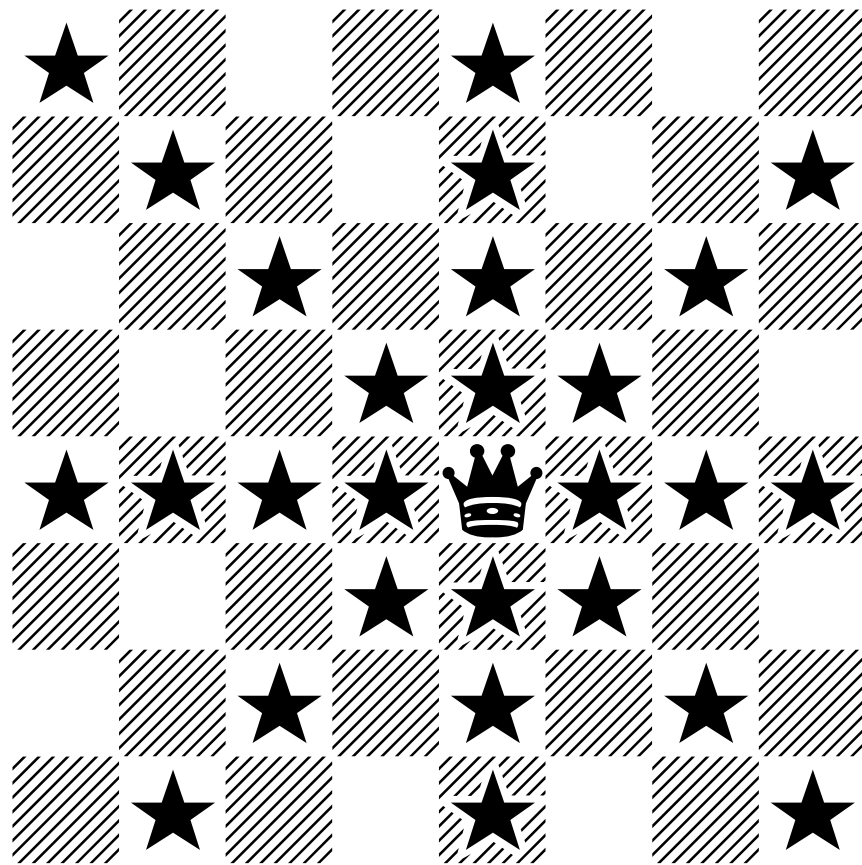
Practice moving the Bishop.



Practice 3: the Queen

The Queen is the most powerful piece.
She can move like a Rook or a Bishop:
up, down, left, right, or diagonally, as far as she likes.

Practice moving the Queen.

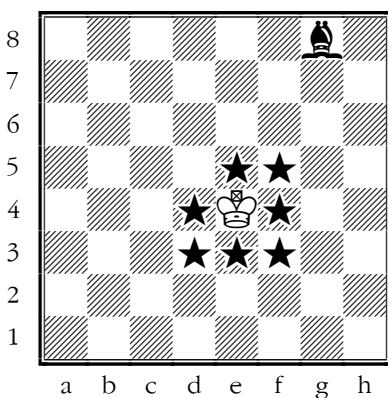


Part 2: Introducing the King, Knight, and Pawn

Key Concepts

- How to move your King ♔, Knight ♞, and Pawn ♟.

Meet the players: the King.



The King can move to all squares with stars on them in the diagram.

The King is the leader of the chess army. He is the most important piece, although not the most powerful. Unlike most of the other pieces, the King's moves are limited in terms of distance. Though he can move in any direction, how far he can go is another story.

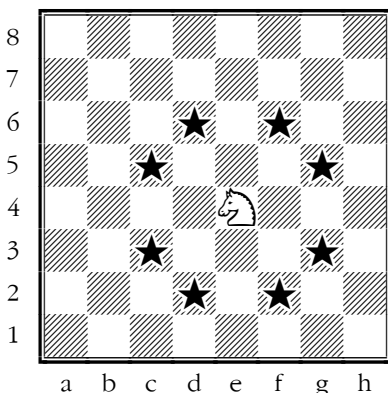
The King can only move one step at a time, and only to squares that are not attacked by the enemy pieces.

Because the King is not such a fast piece, and because he is so valuable, it is normally better to keep him hidden behind your other pieces early in the game. A player must never lose sight of the fact that if you "lose" the King (i.e. if he gets checkmated), you lose the game.

Essential Question, Level I : Knowledge

How is the King's mobility different from the Queen's? And based on what you learned, why does the d5-square not have a star?

Meet the players: the Knight.



*Only the KNIGHT can
jump over other pieces.
He moves like an "L."*

The Knight is a strange piece. It's the trickiest of all the chess pieces! Unlike the others, the Knight *jumps* from one square to another. The Knight moves in an "L" shape: move two squares in one direction, turn 90 degrees, and take one more step.

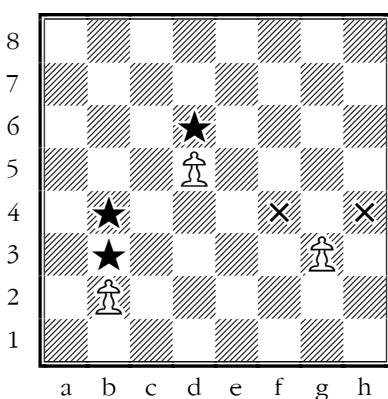
The Knight always changes color when he hops, rotating from a light square to a dark, or from a dark square to a light.

While the Knight is faster than the King, he too is one of the slower pieces on the chessboard. However, it is impossible to block a Knight, as he is the only piece that can jump over both pieces of his own *and* the enemy army. Remember, though, he doesn't capture or take the pieces he jumps over! A Knight only captures a piece that is on the square he *lands* on.

Essential Question, Level I: Knowledge

Can you list three rules you've learned about the Knight so far?

Meet the players: the Pawn(s).



*The PAWN moves
forward, but only
captures diagonally.*

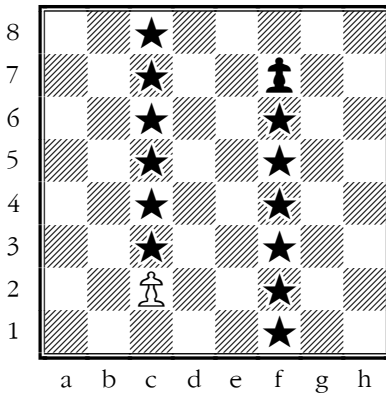
The Pawn is the most plentiful piece on the board. At the start of the game, there are eight of them on each side. The Pawn is the only piece limited to move forward at all times. On each Pawn's first move, he has the option to move forward either one or two squares. On each subsequent move, he can only move one square forward.

Another way in which the Pawn is unusual is that it captures in a different way than it moves. While the Pawn *moves* straight forward, the Pawn *captures* diagonally one step forward (see the g3-Pawn in the diagram at left). The "x" on f4 and h4 shows the possible squares that Pawn could capture onto if an enemy piece were on those squares.

Essential Question, Level I: Knowledge

How would you show a newcomer to chess how a Pawn captures?

Follow the stars, and reach the moon.



Each Pawn's
path to promotion is
highlighted with stars.

Another unusual thing about Pawns is that if they manage to reach the other side of the board, they turn into a new piece—either a Queen, Rook, Bishop, or a Knight. This is called *promotion*.

It does not matter if you already have those pieces on the board. For instance, it's possible that you could have two, three, four, or more Queens at one time! A Pawn cannot stay a Pawn once it reaches the other side; nor can it become a King.

To promote a Pawn, you just replace the Pawn with the piece of your choice. Most often, that piece is the Queen, since she is the most powerful. For that reason, promoting a Pawn is sometimes called "Queening" a Pawn, and the promoting square where this happens is often called the "Queening square."

Essential Question, Level I: Knowledge

Can you select any piece of your choosing when your Pawn advances to the other side of the board?

Lesson 1 Summary and Linking Content to Standards

In Lesson 1, students learned the role that each of the different pieces plays in a game of chess. Mastery of how each piece moves, and the geometry of these movements, is the goal for this lesson. From a practical perspective, learning that every chess piece moves differently and has a very different “identity” is the first step towards children understanding that chess is different from other board games, where all the pieces move in the same way (e.g., checkers), or where the goal is to just go around the board and collect (e.g., Monopoly).

Understanding chess piece movement aligns with the Common Core State Standards: Geometry (K-5).

Students first learned about the less complicated pieces: the Rook, the Bishop, and the Queen.

The Rook moves horizontally and vertically, and is considered a relatively strong piece because it can travel the entire distance of the board in one move. The Bishop moves along the diagonals, and can also travel the entire board. The Queen has the combined powers of the Rook and the Bishop, and is thus the most powerful piece. Learning the movements of these three pieces has strong associations to basic geometry.

Next, students learned about the King, the Knight, and the Pawns. The King can never be captured, and is the key to the game; this was highlighted with the point of having the Black Bishop on g8, guarding the d5-square, and will be reiterated in future lessons. The Knight moves in an “L” shape, and can jump over other pieces while doing so. Finally, the Pawns move ahead one square at a time (two if it’s their first turn) and capture diagonally, making them a complicated piece to master, even though they have the lowest value.

At this point, your students should know the value of each piece and how each of the pieces moves. Knowing this basic information, your students should be ready to begin a game of chess and play legally. Practicing a full game is perfect for core game skills that align with district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), where the expectation is that the student take information provided and demonstrate knowledge through constructed responses on paper throughout that process.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

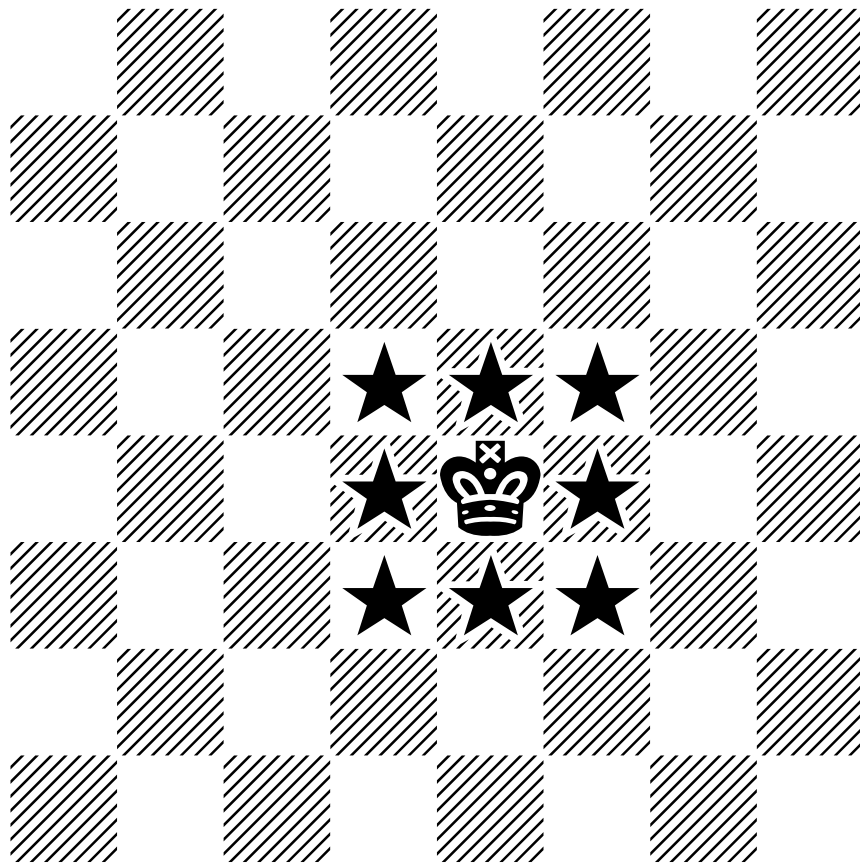
How to teach students to think critically about chess	Common Core Standards connection
Discussion, Collaboration and Sharing Ideas	SL: K-5
Finding Patterns in a Chess Game	G.A.1 and 2 K-5

Practice Pages

Practice 4: the King

The King moves one step in any direction.

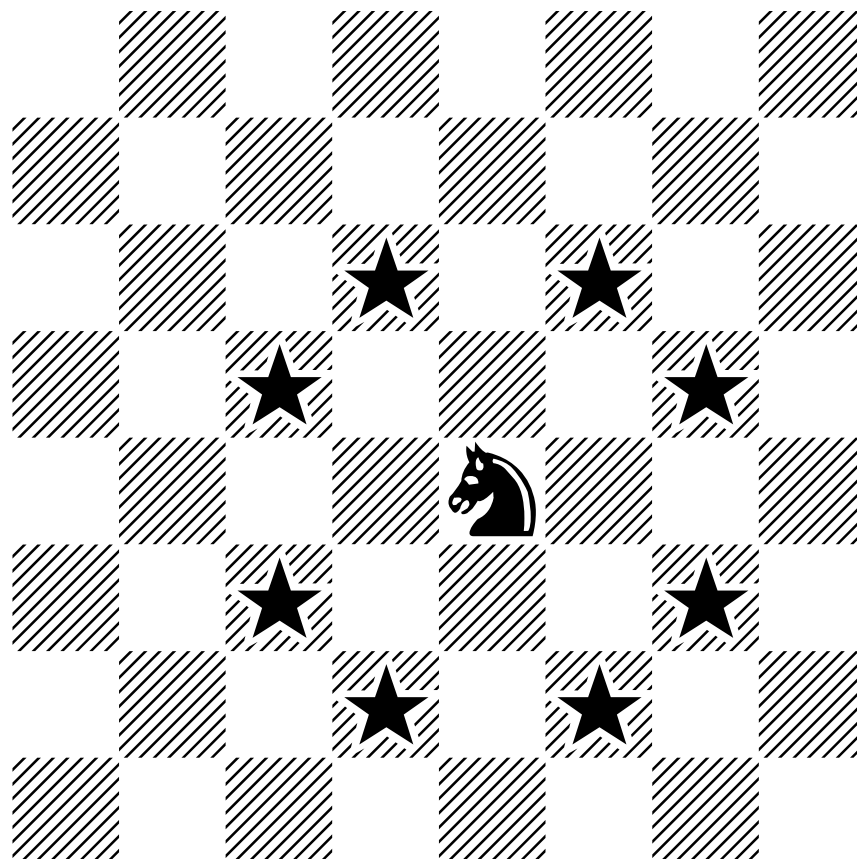
Practice moving the King.



Practice 5: the Knight

Only the Knight can jump over other pieces
with his tricky L-shaped hop.

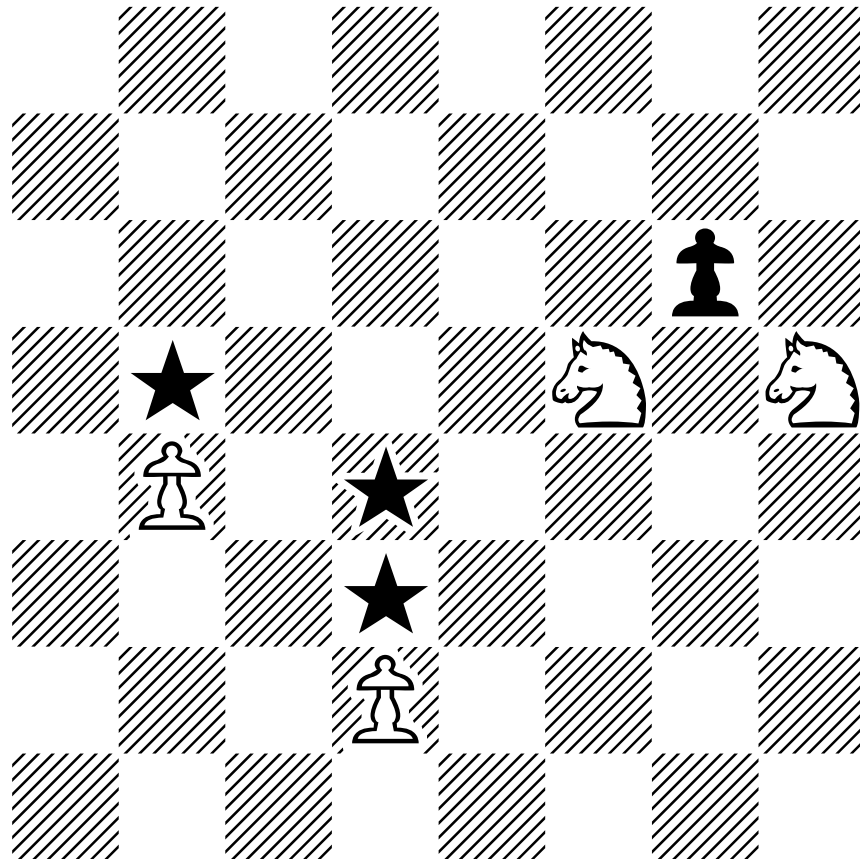
Practice moving the Knight.



Practice 6: the Pawn

The pawn moves one step at a time, but captures diagonally.
On his first move, he can move one or two spaces.

Practice moving the pawn.



Classroom Activities

Activity 1: Ready, set, go!

Activity goal:	Mastery of the different movements of each piece of the chessboard; identifying each piece's special capabilities. (Parts 1 – 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up empty chessboards and pair students off.
- One student should have one of each white piece, and the other should have one of each of the Black pieces.
- Coach/teacher should call out a piece and have students place it on the board, demonstrating how it moves as they do so.
- Once students are comfortable with each of the pieces, coach/ teacher can call out more complicated ideas, such as “set up a white Rook and have it capture two black Pawns in two moves” and “set up a black Knight and all eight white Pawns so that they are under attack by the black Knight.”
- Coach/teacher can perform this exercise multiple times with different pieces and positions.

As this is your students' initial experience with chess (before being able to play and appreciate a full game), we recommend you make this process as enjoyable as possible.

Reward the students (with prizes or “classroom points,” determined by the teacher) every time they successfully demonstrate that they know how a piece moves.

A teacher can also use a demo board or a projector screen to display to the entire class how each piece moves and to perform a number of the activities suggested above (e.g., a Rook with the ability to capture multiple enemy pieces consecutively, to reinforce how the Rook moves).



LESSON 2

Lesson 2: The Goal of Chess—Check and Checkmate



Overview

Lesson 2 of our curriculum focuses on the ultimate goal of a chess game: to put the enemy King into attack until he eventually has no way to escape. Students will learn that while a King may never be captured, attacking the King does force the opponent to respond immediately (and often, with limited options).

There are many moments throughout a chess game where the King will be attacked and players have to choose how to eliminate the threat. In this lesson, students begin to learn how to use this to their advantage.

Part 1 focuses on exactly what check is and the three ways to get out of check. If a King is under attack by an enemy piece, then he is in check, and legally must get out of check. Students learn that the King can escape by running away, by blocking the piece that is putting him in check, or by capturing the piece that is attacking him.

Part 2 explains that sometimes, the King just cannot get away; when that happens, the game has ended in checkmate. A checkmate occurs when the enemy King cannot get away from the attack in any of the three ways learned in Part 1, and therefore the game is over.

On the other hand, a King may have nowhere left to go, but may not be in check; students learn for the first time that this is known as stalemate, and the game ends in a draw, or tie.

The Practice Pages and Classroom Activities help students master the differences between check, checkmate, and stalemate. Additionally, recognizing when a game has reached either checkmate or stalemate can be extremely tricky, and requires several hours of practice to fully grasp.

Students learn to realize when a game is over and identify and explain why it ended, which helps students develop the skills that align with the Common Core State Standards: Geometry (K-5), Counting (K-1) and English Language Arts: Speaking and Listening.

Furthermore, our recommendation in the Teacher's Guide to use the Practice Pages throughout the learning process in this lesson, and to engage classroom discussion by using a demo board or projector, also align closely with classroom goals for Common Core State Standards: Geometry (K-5), Counting (K-1) and English Language Arts: Speaking and Listening.

Students should now be able play an entire game of chess and recognize when, how, and why the game ends. They should also know the ultimate goal is to attack the enemy King by putting him in check, and eventually in checkmate.



Teacher's Guide

Lesson 2 should give the students a firm grasp of the goal of a chess game: surrounding and trapping the enemy King. They should also begin to see how the King can escape from the different attacks (checks) their opponent can deliver.

Key Concepts:

- Check is a way to attack the enemy King.
- Three ways of escaping check: capture, protect, or run.
- Checkmating the enemy King is the goal.
- Checkmate.
- Stalemate.

Make sure your students grasp the important (yet sometimes counterintuitive) concept that you cannot capture the King!

The only way to win is to trap (checkmate) the enemy King. Stop and ask students whether they are allowed to capture the enemy King at different moments during this stage in their chess development.

Practical Notes and Advice—Lesson 2

- Let the students try the “Checking” Practice Page before “Escaping Check.”
- Utilize the practice pages to reinforce the concepts as you go through the three methods of escaping check, rather than waiting until the end of the lessons to assign the practice pages. This will increase retention.
- Let the students know that the choice to capture, protect, or run is going to be an important decision. They will often have to choose which is best in a game.
- It is important not to let games at this stage end with “I took his King, so I win” or even “I checkmated her, but then she moved into check, so I just took her King.” It is better to make sure they understand that the game **ONLY** ends when the King is trapped (checkmated), and it is not allowed to let your King be taken, or to take the opponent’s King.
- Let them know stalemate will be revisited in the next lesson. The point is to emphasize that without “check,” there is no “checkmate.” Do this while the differences between checkmate and stalemate are still fresh.

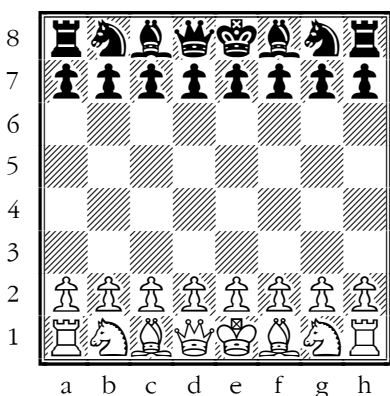
Lesson 2

Part 1: Check, and How to Escape Check

Key Concepts

- What is check: to attack the King!
- How do you get out of check?
- How do you win a chess game?

What is check? Attacking the King in chess.



Which piece is screaming "shah!" here? That's right: it's the Bishop on b7!

A "check" occurs when a piece attacks the opposing King. The side whose King is under attack is legally required to get out of check (move the King to safety); hence the warning.

The origin of the word "check" is the Persian word for "king"—"shah." As the game of chess progressed into Europe, this word evolved, as languages often do, into "shach," "shakh," then "shekh," and eventually "check" in English.

Although it is permitted to say "check" out loud during a game, one is not required to, and it is not usually done in serious (tournament) chess. Nevertheless, check is very important in chess, because everything else must stop until the King finds safety.

Essential Question, Level I: Knowledge

Can you list any words that are different in other languages or may have changed over time through different cultures? If yes, write a short paragraph about this word. If no, describe the origins of the word "check" from this first diagram.

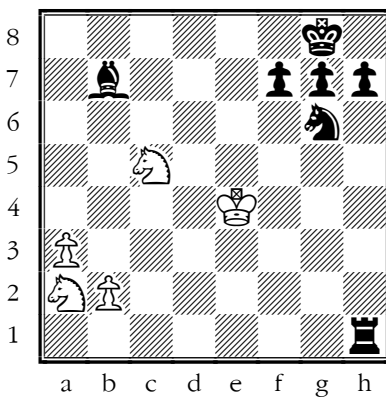
As stated above, even though a player is not required to announce check, according to the rules of chess, you cannot win simply by capturing the enemy King. If you capture the opponent's King because he or she did not know the King was attacked (in check), you must go back to before you took the King, and let your opponent choose a different move to save the game. *The only way to win the game is to trap the King completely (checkmate)—*and we are going to learn about this in Part 2.

First, you need to know the three ways of escaping check: C.P.R.

Sometimes, when a person's life is in danger, a doctor or paramedic will perform C.P.R, or cardio-pulmonary resuscitation.

In chess, the King is the most important piece and if he is in danger, we must perform our chess version of C.P.R. to see if we can help him find safety before it's too late!

Escape Route #1: C—*capture the checking enemy piece.*



The c5-Knight is not ready to let the Black Bishop get all the glory.

Capture the enemy! Often, your best option to get your King out of check and into safety is to capture the enemy piece that is attacking your King. Not only is the King saved in this way, but an enemy piece is also captured.

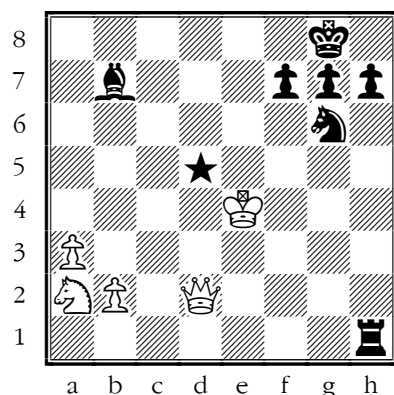
Some beginning players might think that their King should have to run away after any check, and easily forget about the option to capture the checking piece.

So before you consider other options, think about whether you can capture the piece checking your King! It might just be the best way out of check. In this position, the White Knight on c5 can capture the checking Bishop on b7.

Essential Question, Level I: Knowledge

Using the knowledge you've gained about chess so far, how would you explain why it's important to get your King safe and out of check?

Escape Route #2: P—*protect* against the enemy piece.



The Queen can block the check by moving to d5. Should she?

A second way to get out of check is for one of the King's other pieces to step in front of the attacking piece, protecting the King and blocking the enemy from giving check for the time being.

This leaves that (blocking) piece immobile, and puts it in danger, but sometimes this is the best way out of check.

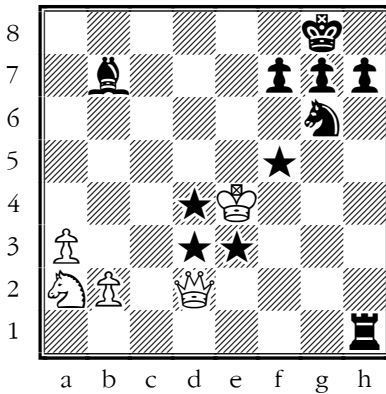
It is important to realize, though, that only checks by the Bishops, Rooks, or Queen can be blocked. Checks by Knights cannot be blocked, since the Knights jump over pieces.

Checks by the Pawn also cannot be blocked, since Pawns' attacks, by definition, have no intervening squares. Here the White Queen has the ability to go to the d5-square (the star) to block the check from the Bishop. But is this a good idea?

Essential Question, Level II: Comprehension

Can you state in your own words what is happening in the diagram?

Escape Route #3: R—*run* away from the enemy piece.



*When all else fails, you
will see the King running.*

The third and final way to get out of check is simply to move the King away from the dangerous square. In other words, run! Although the King often does not want to move, sometimes it is the best—or only—way out of check.

Keep in mind that the King can only move one square at a time, and must be careful not to move to another square where he will be in danger from a different opposing piece.

Essential Question, Level II: Comprehension

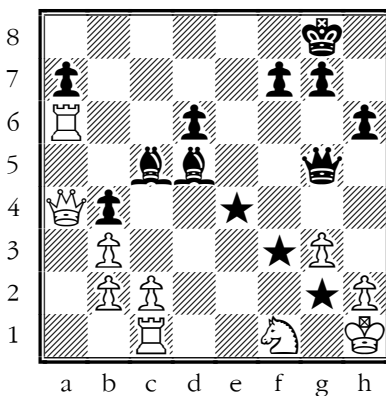
How would you summarize the three ways a King can get out of check? Describe your options in order to “perform C.P.R” and save your King.

Part 2: Checkmate, and Introduction to Stalemate

Key Concepts

- How to win a chess game: checkmate!
- Introduction to stalemate.

When the King cannot escape... it's checkmate.



The trap is complete: the White King is checkmated.

You win the game when one of your pieces says "check" to the enemy King, and your opponent has no way of performing "C.P.R." as we learned in the last lesson.

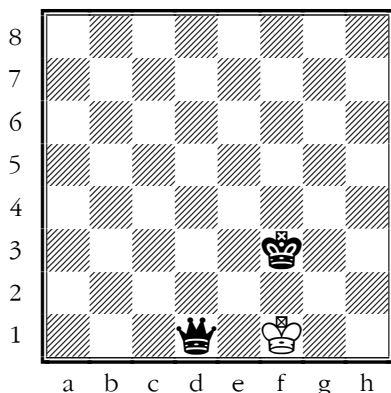
When there is no way to capture, protect, or run to safety with the King, we call this *checkmate*. Setting up a checkmate is very tricky, but you can use logic to realize that it often means:

- Separating the King from his allies (the pieces that would capture or block your attacker).
- Surrounding him with your pieces (so that he has no safe squares to run to).
- Applying the deadly blow by giving check (here, Black's Bishop on d5 is checking the King on h1, and it is checkmate. The Bishop on c5 guards the g1-square, preventing the White King from running).

Essential Question, Level III: Application

Can you make use of the facts in the diagram to describe the relationship of the White Queen on a4 and the White Rook on a6, in regards to protecting the White King? Are they doing a good job?

Another example of checkmate.



The King is checkmated on the back rank, unable to escape.

As there are innumerable possible examples of checkmate, to show you too many more examples of checkmate is not practical. However, to simplify the concept a little further, here we see a very basic position commonly reached at the end of a game.

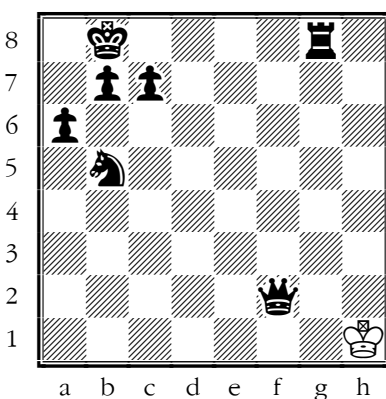
The Black Queen (d1) is checking the White King (f1). There are no other White pieces on the board to capture or block the Black Queen. The White King is unable to move forward to any square along the second rank, because the Black King is already attacking those squares (and again, moving *into* an attack, even if it is by the enemy King, is not legal).

We will see more of the pattern used to checkmate with a King and a Queen versus the lone King in Lesson 3, but this second example of checkmate should help clarify the goal of the game.

Essential Question, Level III: Application

If you could move the Black Queen anywhere, where would you place her so White is no longer in checkmate, but is in stalemate?

When a King has nowhere to go, but is not in check, he is in stalemate.



The King is trapped, but not attacked. Black missed its chance!

At first, everything looks good here for Black. Black has captured all the opponent's pieces, chased the King into a corner (h1), and attacked all the squares he could run to.

White's King is quite surrounded! However, Black forgot one important thing: she or he didn't attack (check) the King. Since he is not attacked, he is not in checkmate.

A King is not allowed to move onto a square that is unsafe. Here, the White King has no safe squares (any move would place him in check).

For failing to checkmate properly, the game is declared a draw (tie game). A draw is not necessarily a bad result, but with all those extra pieces, you would think Black could have found a way to win the game. If White still had another piece to move, it wouldn't be stalemate. For more on stalemate, move onto Lesson 4, Part 3.

Essential Question, Level III: Application

Where could you place Black's pieces in the above diagram so that the position would not be stalemate? Organize your ideas in a well-constructed, two-paragraph response.

Lesson 2 Summary and Linking Content to Standards

In Lesson 2, students learned about the ultimate goal of chess: checkmate! Though the enemy King can never be captured, your forces can put him under attack. If and when these attacks prove unstoppable, the goal of chess has been achieved.

Understanding the goal of the game and how to achieve it aligns with the Common Core State Standards outline for students to develop critical thinking skills, which enable the planning and organization necessary for a chess game and analysis. The Common Core State Standards covered in this lesson encompass Geometry (K-5), Counting sequence (K-1), and English Language Arts: Speaking and Listening.

Students first learned the concept of check, and why putting an opponent in check is typically a smart plan. Students learned the three ways that a King can escape check. Learning to recognize the “C.P.R” methods in the proper order instills proper defensive planning and aligns with the further development of critical thinking skills.

Students also saw there is one other, tricky way the game can end: a stalemate. Students should now know stalemates can be a useful defensive plan in salvaging a draw from a worse position, but that they should be on the lookout to not allow a stalemate, especially if they are winning.

Students have built on their knowledge of how the pieces move by learning that the ultimate goal of a chess game is to attack the enemy King. Students can use checks to their advantage by attacking the King, and ideally, eventually checkmating him. These core game skills support success in district-mandated assessments like Partnership for Assessment of Readiness for College and Careers, developing critical thinking and articulation of thoughts and ideas, as well as demonstrating skill through elaborate constructed responses.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

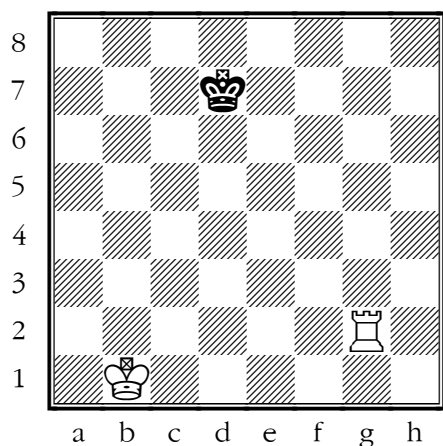
Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

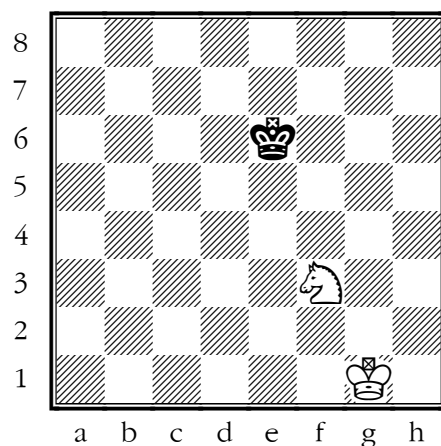
Practice Pages

Practice 1: Check the King

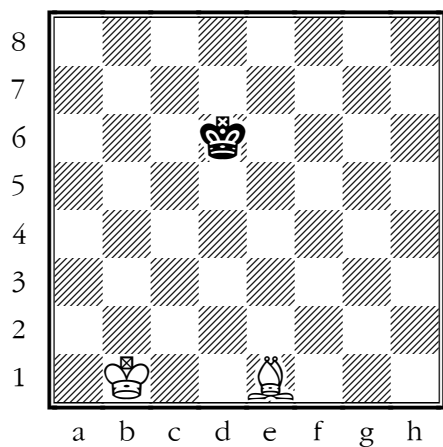
White to play: Can the Black King be placed in check? Circle Yes or No.
If "Yes," circle every piece that can attack the Black King, putting him in check.



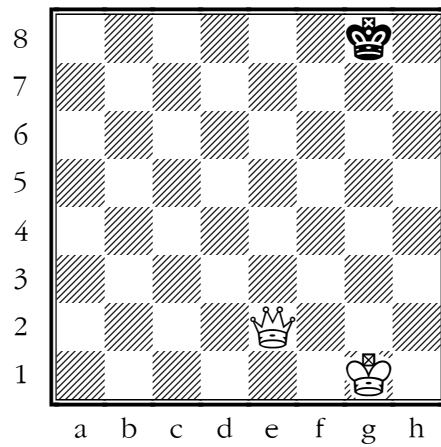
Draw arrows to show the two ways the Rook can put the Black King in check.



Draw arrows to show the two ways the Rook can put the Black King in check.

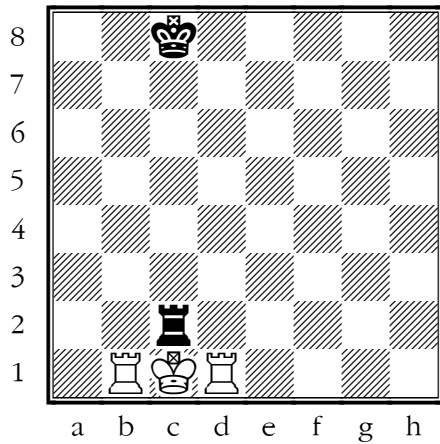


Draw arrows to show the two ways the Rook can put the Black King in check.

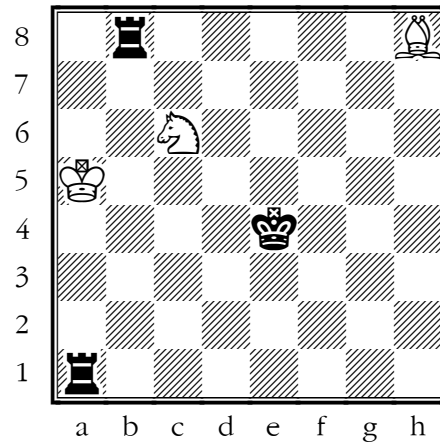


Draw arrows to show the two ways the Rook can put the Black King in check.

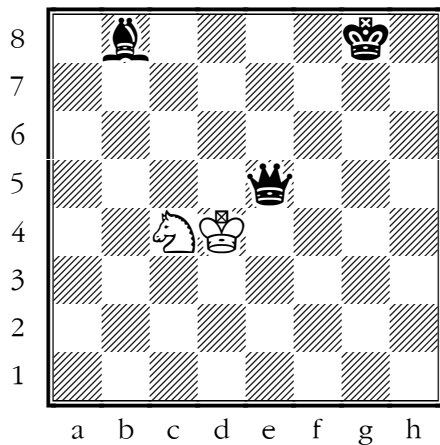
Practice 2: Capture the checker



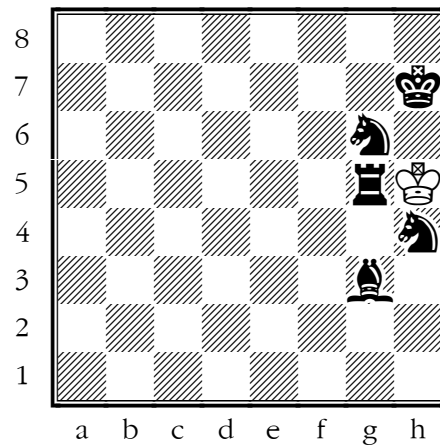
Draw an arrow to show how White can capture the "checker" and escape check.



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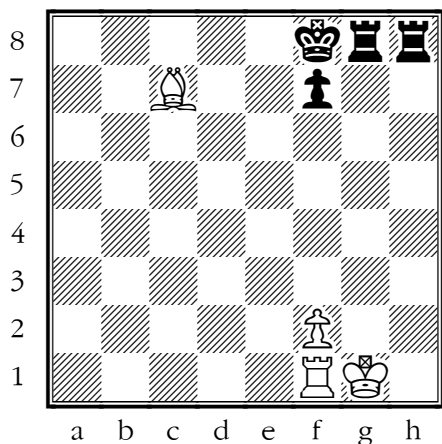


Draw an arrow to show how White can capture the "checker" and escape check.

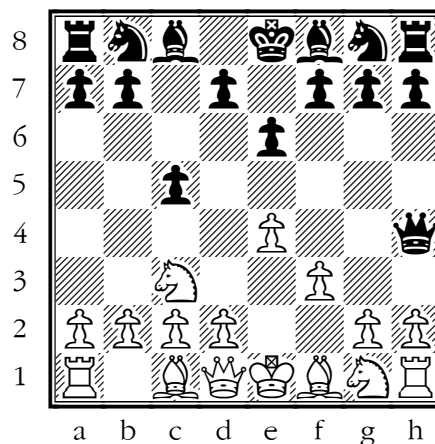


Draw an arrow to show how White can capture the "checker" and escape check.

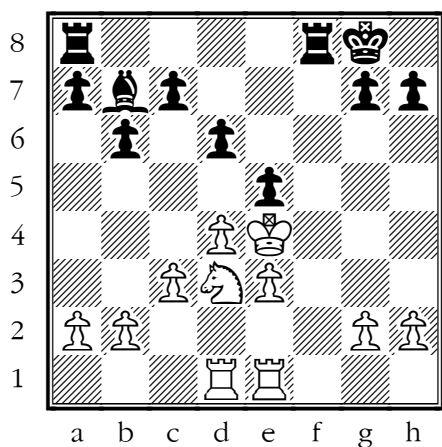
Practice 3: Block the checker



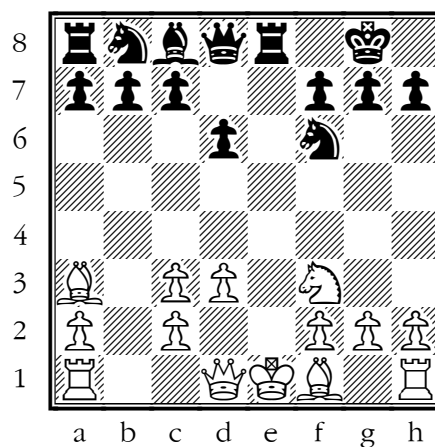
Draw an arrow to show how White can protect the King from check.



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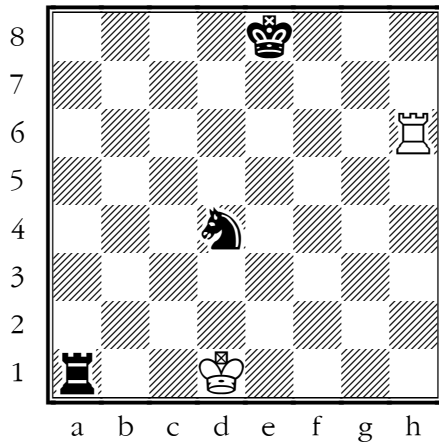


Draw an arrow to show how White can protect the King from check.

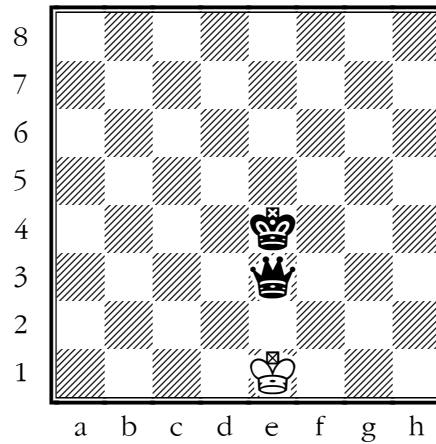


Draw an arrow to show how White can protect the King from check.

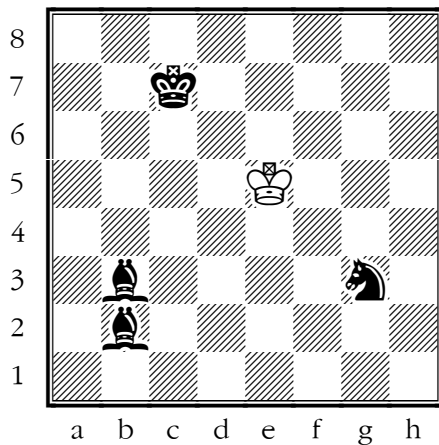
Practice 4: Running from check



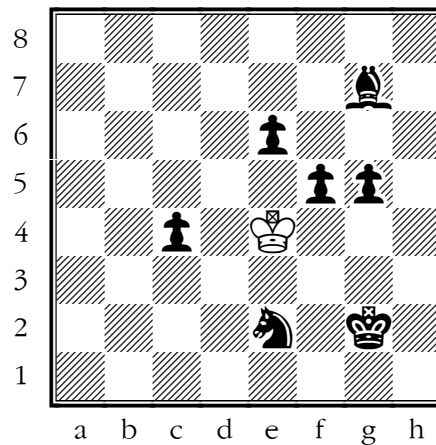
Draw arrows to show how the White King can move out of check to a safe square.



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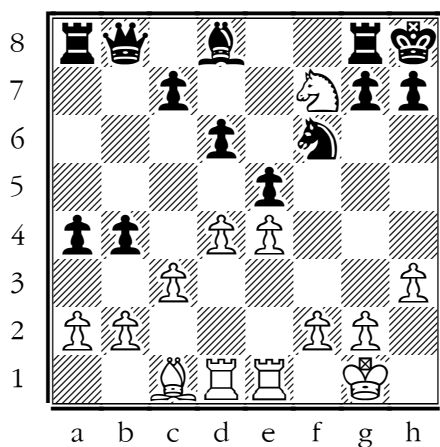
Draw arrows to show how the White King can move out of check to a safe square.

Practice 5: Is this checkmate?

In each of these positions, the Black King is in check.

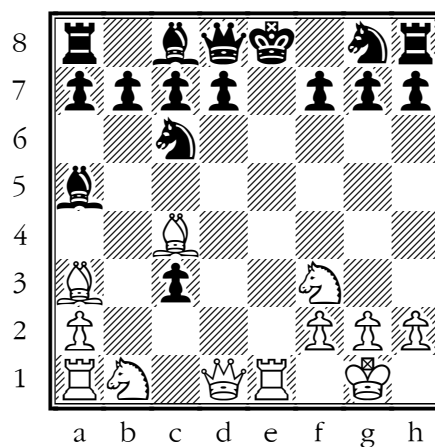
Is he in checkmate?

Circle the correct answer beneath each diagram.



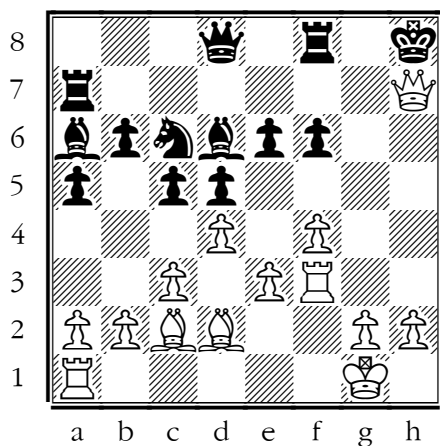
Circle the correct answer:

Yes Checkmate? **No**



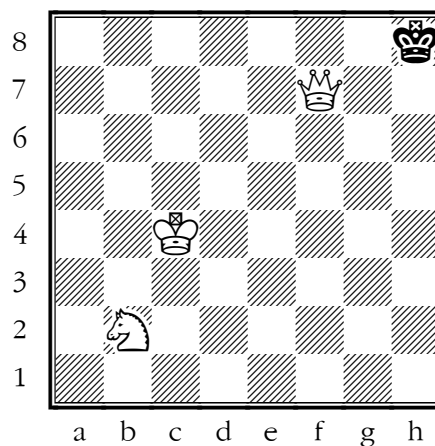
Circle the correct answer:

Yes Checkmate? **No**



Circle the correct answer:

Yes Checkmate? **No**



Circle the correct answer:

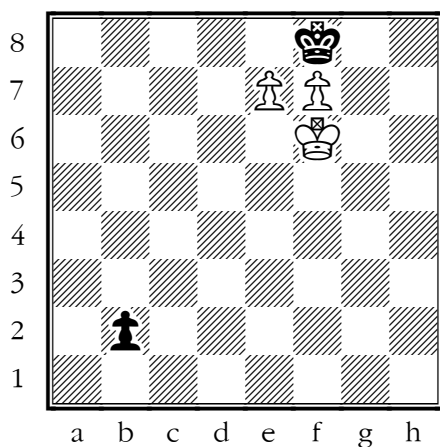
Yes Checkmate? **No**

Practice 6: Is this checkmate?

In each of these positions, the Black King is in check.

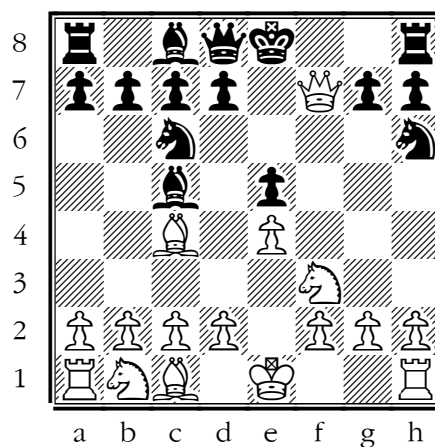
Is he in checkmate?

Circle the correct answer beneath each diagram.



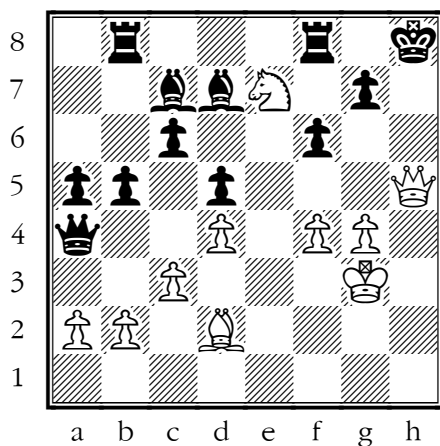
Circle the correct answer:

Yes Checkmate? **No**



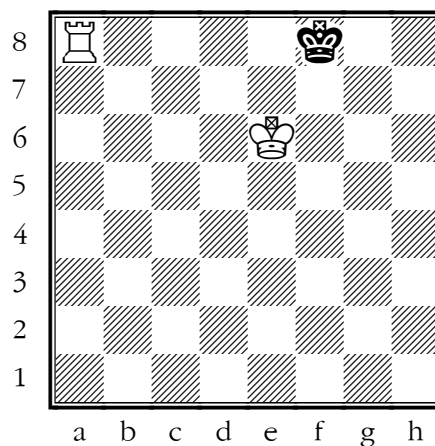
Circle the correct answer:

Yes Checkmate? **No**



Circle the correct answer:

Yes Checkmate? **No**



Circle the correct answer:

Yes Checkmate? **No**



Answer Key

Practice Page 1: Check the King

- Diagram #1 Arrows drawn from the Rook to d2 and g7.
- Diagram #2 Arrows drawn from the Bishop to b4 and g3.
- Diagram #3 Arrows drawn from the Knight to d4 and g5.
- Diagram #4 Arrows drawn from the Queen to a2, c4, e6, e8, g2 and g4.

Practice Page 2: Capture the checker

- Diagram #1 Arrow drawn from King on c1 to black Rook on c2.
- Diagram #2 Arrow drawn from Knight on c4 to black Queen on e5.
- Diagram #3 Arrow drawn from Bishop on h8 to black Rook on a1.
- Diagram #4 Arrow drawn from King on h5 to black Rook on g5.

Practice Page 3: Block the checker

- Diagram #1 Arrow drawn from white Bishop on c7 to g3-square.
- Diagram #2 Arrow drawn from white pawn on d4 to d5-square.
- Diagram #3 Arrow drawn from pawn on g2 to g3-square.
- Diagram #4 Arrows drawn from white Queen on d1 to e2-square, Knight on f3 to e5-square, and (best) Bishop on f1 to e2-square.

Practice Page 4: Running from check

- Diagram #1 Arrow drawn from King on d1 to d2-square. Black Knight guards c2 and e2.
- Diagram #2 Arrow drawn from King on e5 to f4-square. No other safe squares.
- Diagram #3 Arrows drawn from King on e1 to d1 and f1 squares.
- Diagram #4 Arrow drawn from King on e4 to e3-square.

Practice Page 5: Is This Checkmate?

Diagram #1 Yes.

Diagram #2 Yes.

Diagram #3 No.

Diagram #4 No.

Practice Page 6: Is This Checkmate?

Diagram #1 Yes.

Diagram #2 No.

Diagram #3 No.

Diagram #4 No.

Classroom Activities

Activity 1: Check, checkmate, or stalemate?

Activity goal:	Mastery of the differences between check, checkmate, and stalemate; recognizing and understanding if and when a game is over and what the result is. (Parts 1-2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up an empty demo board and have students gather as a group.
- Coach/teacher should use a couple of pieces (i.e., White Queen, Rook, and Bishop are recommended to start, as they are the easiest, most straightforward pieces to master) to set up a position where the Black King is in either check, checkmate, or stalemate.
- Have students identify if the position is check, checkmate, or stalemate, and why it is so. Have them vote after a small amount of discussion.
- If the position is check, have another student identify how they can stop the check. If it is checkmate, have a different student place a Black piece on the board in such a way that it would help them stop the checkmate if it were there. If the position is a stalemate, have another student add a White piece to make the position check or checkmate instead.
- Coach/teacher can perform this exercise multiple times with different pieces and positions until he or she determines that the class has fully integrated the concepts.

Coach/teacher should ensure all students have a good grasp on the differences between check, checkmate, and stalemate, and how to identify them, by the completion of this exercise. It is important to make sure all students are involved, as knowing this material is critical.

Activity 2: Show me!

Activity goal:	Mastery of the differences between check, checkmate, and stalemate; recognizing and understanding if and when a game is over and what the result is. (Parts 1-2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up chess boards and sets and pair students off.
- Have students begin a normal chess game. Anytime a student puts an opponent in check, have him or her raise her or his hand.
- Students should explain why the King is in check, and the student in check should point out the different ways to escape the check (i.e., by blocking, moving away, or capturing)
- Students should raise their hands if they think the game has ended in checkmate or stalemate, also explaining why they believe so and why there is no way for the King to escape.
- It is important for the coach/teacher to engage by asking questions, and not to reveal the answer as to whether it “really is checkmate” or not. Let the students arrive at the answer, as much as possible, by themselves.

Coach/teacher can award students small prizes for recognizing a variety of checks and the ways the King can escape those checks.

LESSON 3

Lesson 3: Basic Checkmates and Stalemate Explained



Overview

Lesson 3 of our curriculum expands on students' knowledge of the goal of chess by explaining some of the most common basic checkmate patterns. Students have mastered many fundamentals of chess, and are now ready to put those skills to the test in a complete game.

Many times, students will have a big advantage, but are unsure of how to finish the game off. Knowing these checkmating techniques gives students the confidence and skills they need to successfully win a game.

Part 1 focuses on the Queen and King versus lone King checkmating technique. Students learn that even one major piece left can be enough to finish off an opponent, as long as they use the right strategy, which includes using their own King for help.

Part 2 highlights the "Rook Roller" checkmate, where students have two rooks left against a lone King. This technique teaches students how to use two of their pieces cohesively in order to attack the enemy King, again forcing him into a checkmate.

Part 3 shifts the focus to something other than a checkmate: a stalemate. It is important for students to know that not all games end in a checkmate. If students do not know these key checkmating strategies, there is a strong likelihood they could accidentally stalemate their opponent. When a King is not in check but has nowhere to move, the game ends in a stalemate, and is therefore a draw.

The Practice Pages and Classroom Activities help students gain confidence with these tricky checkmating patterns. A student with these skills will be able to avoid stalemating his or her opponents and will be able to bring home the full point. These abilities align with the Common Core State Standards:Geometry (K-5). Students can now complete a full chess game and do so with a victory.

Teacher's Guide

When teaching the basic checkmate patterns, we recommend students first review the three steps (which may also be referred to as rules or principles in the initial title descriptions before each diagram) in a group setting. The coach's instruction on either a demo-board, projector, or in some other group learning format is most effective for a child with no experience.

Furthermore, students should practice the positions with a partner—preferably another student trying to master the same technique—alternating offense and defense a minimum of three times in the classroom (or use the Computer Workout tool on ChessKid.com) to practice the positions until they are truly mastered.

We recommend students move quickly from learning stalemate (Part 3) to the practical “Checkmate or Stalemate?” Practice Pages. Without the immediate application of their newfound knowledge, the differences between checkmate and stalemate will generally become confused in a child's mind. Coaches will find themselves answering many raised hands—all with some version of the following question: “Coach, is this checkmate?” Or perhaps: “Teacher, am I stalemated or checkmated in this position?”

Practical Notes and Advice—Lesson 3

- Referencing the invisible “force field” the Queen creates around the enemy King can help stimulate the imagination and the child's interest level when learning this basic checkmate pattern (Part 1).
- Reminding each student that NO check should be played by the Queen until checkmate can help instill discipline in the child's thought process (Part 1).
- Allowing the students to practice this checkmate pattern (Part 2) using just the two Rooks (without the White King on the board) can help the learning process by allowing the students to focus on what matters about the position, and not be tempted to involve the White king.
- Students should move directly from Part 3 to “Checkmate or Stalemate” Practice Pages—ideally before the end of a class or session, while the ideas and differences between checkmate and stalemate are still fresh.

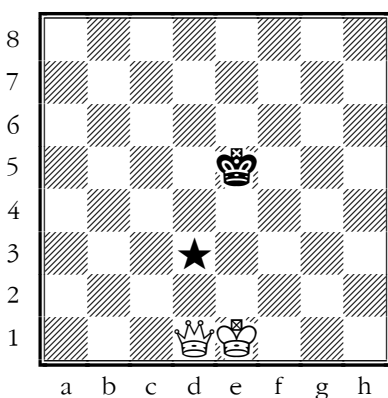
Lesson 3

Part 1: Basic Checkmates—King and Queen versus Lone King

Key Concepts

- What is a checkmate pattern?
- Mating with the King and Queen.
- Coordinating and using your pieces together for a plan/goal.

Step 1. The pattern: Queen moves a Knight's-move away from the King.



White moves 1.Qd3.

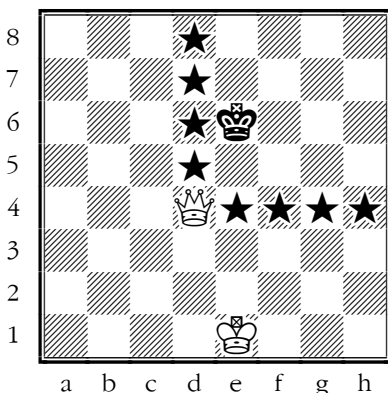
Now that we know how the game is played, as well as how the game is *won*, the next step is to learn the different patterns and strategies that help us win games. Without knowledge of the basic checkmate patterns and principles, it is hard to justify learning anything more advanced (why learn how to “win a Queen” if you can’t even “checkmate with a Queen,” right?).

Our first example shows an excellent starting position for learning, practicing, and mastering the basic checkmate: King and Queen vs king. There is a simple pattern and process for White to win this endgame 100% of the time.

Essential Question, Level IV: Analysis

Knowing how the Knight moves, and seeing the d3-square with a star on it, what conclusions might you draw about the “mating pattern” referenced above (i.e., moving the Queen a Knight’s-check away)?

The “imaginary box,” or force field.



The position continues after 1.Qd3 (diagram 1) 1...Ke6 2.Qd4.

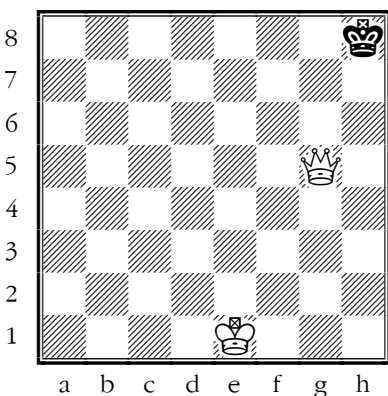
Even if White moves the Queen forward just one square at a time—whether diagonally or horizontally—as long as the Knight's distance is maintained, she (the Queen) creates an imaginary box (or force field) around the enemy king. By repeating this pattern, the Queen is able to force the enemy King to the edge of the board, and eventually, the corner, all by herself. Notice that the lone Black King is unable to attack an enemy Queen without moving into check. This is key to understanding why this pattern works.

By following a natural set of moves from this diagram, such as 2...Kf7 3.Qe5 (Knight's check away) 3...Kf8 4.Qe6 Kg7 5.Qf5 Kg8 6.Qf6 Kh7 7.Qg5 we reach our next diagram...

Essential Question, Level IV: Analysis

Why might you think White is trying to make the “imaginary box” smaller?

Step 2. Stop the Queen and bring in the King.



Position resulting after 7...Kh8.

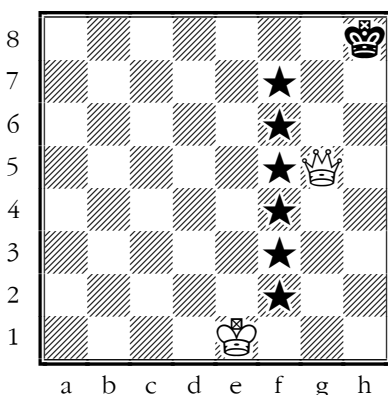
You will notice that once the Black King has been forced to the edge of the board, it is no longer necessary to use the “Knight's check” pattern to make the box any smaller. In fact, if the Queen were to move to g6 after Black plays ...Kh8, the game would end in a stalemate—which is a draw (tie game). See Part 3, Stalemate, for a more detailed description.

Instead of making the box smaller, it is now time to activate the king. First, recognize the best square(s) for the King to “shoot for.” HINT: The King needs to find a square close enough to eventually protect the Queen to deliver checkmate.

Essential Question, Level IV: Analysis

Why do you think the King becomes such an important piece in positions like you see in the diagram?

Follow the stars, and reach the moon.



White's winning path is highlighted with stars.

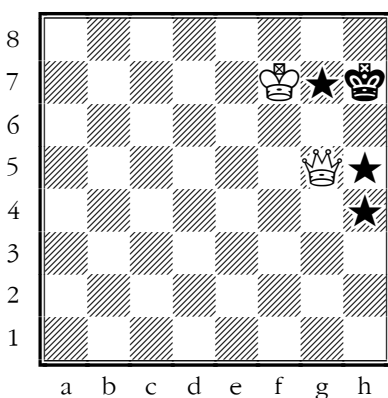
Because we cannot bring the Queen any closer without immediately ending the game in a stalemate, we must find another way to make progress. It is very important that the Queen does not start giving “random” checks to the enemy king. In fact, if the King and Queen checkmate pattern is executed properly, the only check given throughout the entire mating pattern should be checkmate.

The quickest route for the White King to join the fight is displayed with stars. In following this straight path, eventually the White King will find himself in direct “opposition” to the enemy king, and in a great position to protect his Queen.

Essential Question, Level V: Synthesis

What might happen if White decided to execute several random checks instead of walking the King up the “winning path?”

Step 3. King helps the Queen, ending the game as a team.



*Position reached after
8.Kf2 Kh7 9.Kf3 Kh8
10.Kf4 Kh8 11.Kf5 Kh7
12.Kf6 Kh8 13.Kf7 Kh7...*

NOTE: 13.Qg7 (immediately delivering checkmate) was also possible in the variation given beneath our diagram. However, here we see the most ideal position for learning the King and Queen vs King checkmate pattern. White has three options to end the game: 14.Qg7#; 14.Qh5#; 14.Qh4#.

Students should now practice this pattern with each other (or using ChessKid.com’s Computer Workout tool). Similar final positions, with three ways to play checkmate in one move, may also be: White king-g6 and Queen-e7 – Black King-g8; White king-b6 and Queen-d7 – Black King-b8; etc...

Essential Question, Level V: Synthesis

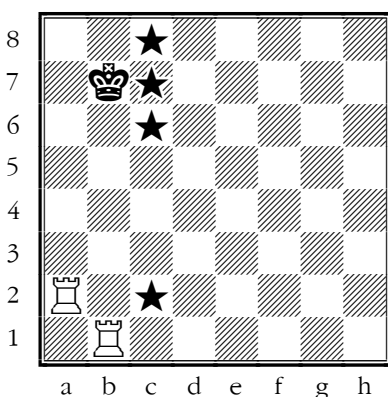
Discuss the importance of teamwork between the White King and Queen in order to make this checkmate possible?

Part 2: Basic Checkmates—"Rook Roller" (Two Rooks versus a Lone King)

Key Concepts

- Coordination and cooperation with your pieces.
- Using the Rooks.
- More checkmate (mating) patterns.

Step 1. The Pattern: one Rook at a time—leave your King behind.



*In the above position,
Black has no choice but to
move to the c-file.*

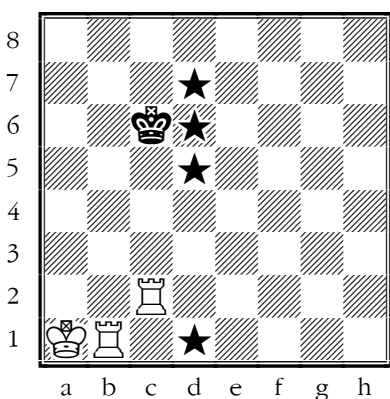
When checkmating the enemy King with two Rooks, there is a very simple pattern to follow. The first thing to realize is that, unlike the King and Queen checkmate, you will not need your King to execute this particular checkmate pattern. To highlight this point, we have set up our first diagram with an ideal position for our Rooks, but no White king.

Second, remember that a Rook does not have to be close to the enemy King in order to force the King to do what the Rook wants. A Rook on b1 controls every square along the b-file, which means an enemy King must find a safe square on one of the adjacent files: either the a-file or c-file.

Essential Question, Level V: Synthesis

Could you replace one of the White Rooks with a different White piece, and still not need the White King to help deliver checkmate?

When rotating “Rook checks,” always lead with the Rook you left behind.



After 1...Kc6 White played 2.Rc2+, leaving the b-file under control.

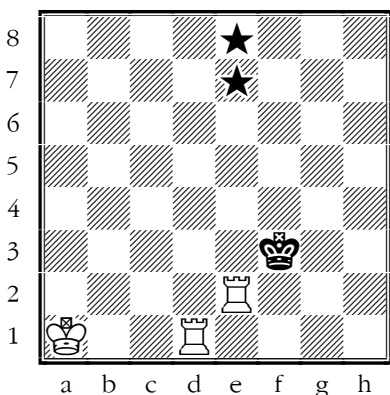
By leading the attack on the King with the Rook that was furthest away (the a-file Rook was further from the c-file than the b1-Rook), White is beginning to push the King toward the opposite edge of the board (eventually landing on the h-file).

It is very important that the Rooks remain close together, taking turns to deliver the vital check. This pattern can repeat itself, without interruption, until the Black King has ventured close enough to deliver an attack against one of the Rooks.

Essential Question, Level V: Synthesis

Before seeing the rest of the diagrams, can you predict how White’s mating pattern is going to work if White makes the best moves? Can you already visualize this idea in your head and explain it?

Step 2. Separate and coordinate... again.



Position reached after 2...Kd5 3.Rd1+ Ke4 4.Re2+ and 4...Kf3.

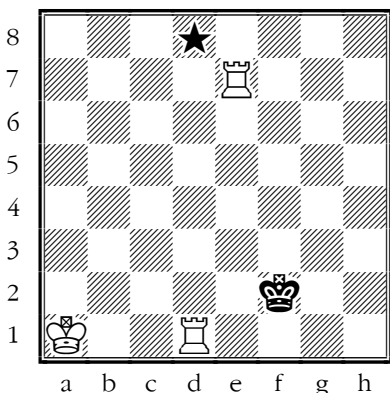
After Black reaches his goal of attacking the lead Rook, White must for the first time separate the Rooks. (NOTE: If Black were not aggressive in this manner, the game would end quickly, with the Rooks repeating this “rotating check” pattern, and eventually delivering checkmate on the h-file.)

The stars on e7 and e8 highlight the best two squares for the Rook on e2. After 5.Re7, for example, the enemy King faces a tough decision: stay near the first rank, preventing the coming Rf1+, or race to the far side of the board, with hopes of catching the e7-Rook in time to delay checkmate for a little longer.

Essential Question, Level V: Synthesis

How would you test a beginning chess player, maybe a friend or a sibling, to see if he or she understood this pattern?

The enemy King's tough decision.



*Black chose 5...Kf2 -
preventing Rf1+.*

If instead Black had chosen 5...Kf4—attempting a “quick jog” to the other side of the board—we see the Rooks use the rotating checks pattern, even at a distance.

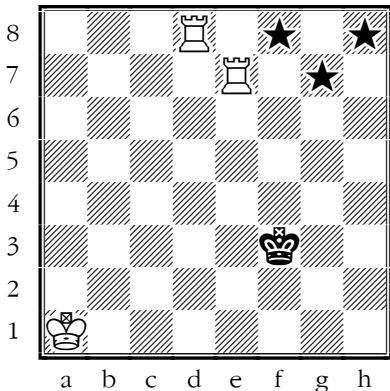
White continues 6.Rf1+ Kg3 7.Rg8+ Kh2, and instead of 8.Rh1+?? losing the Rook, the White Rooks rejoin forces to finish the game: 8.Rf7 followed by 9.Rh7#.

After Black's more stubborn move, preventing the Rook from checking on f1, White brings the Rooks back together —6.Rd8!—and prepares for their final “Rook ‘n’ roll tour.”

Essential Question, Level V: Synthesis

Can you elaborate on the reason why the Rooks have to work together as a team, taking turns, in order for this mating pattern to work?

Step 3. “Rock n’ roll” Rooks love the edge of the board.



*Climax “rotating check”
sequence, with the
position reached after
6...Kf3.*

With the band back together again, we are ready for the final three checks occurring on f8, g7, and h8; the Black King is helpless. White kicks off the final “Rook roll” with 7.Rf8+ Kg4 8.Rg7+ Kh5 (the Black King is almost close enough to delay the inevitable once again, but not quite) 9.Rh8#.

Students should now practice this pattern with each other or with ChessKid.com’s Computer Workout tool. With both our first two checkmate patterns, your opponent's willingness to “work with you” was irrelevant. This mindset is very important for a chess player's overall approach and improvement. Chess players must learn to develop plans of attack that don't depend on your opponent helping you with bad moves.

Essential Question, Level V: Synthesis

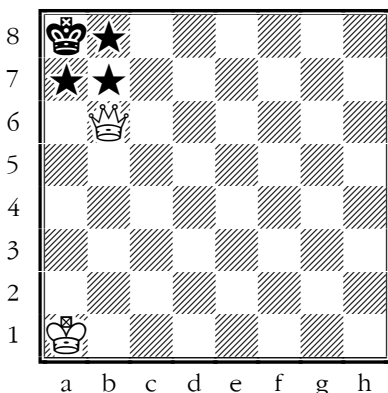
Can you predict the outcome of a winning position if you only relied on “hoping” your opponent makes bad moves? What do you think might happen?

Part 3: Stalemate (No Legal Moves) Explained

Key Concepts

- Basic concept, definition and examples of stalemate.

Stalemate, example 1.



With Black to move, the game is over (a stalemate is the final result).

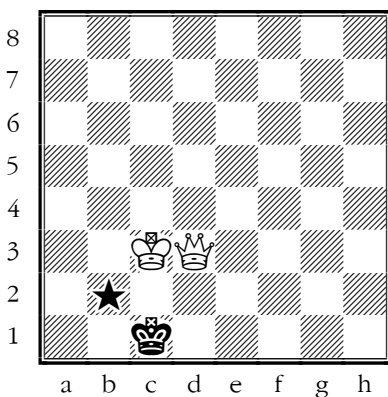
When the player whose turn it is to move has no legal moves for any of his or her pieces, but is not in check, a stalemate has occurred, and the game is a draw (a tie, with each player receiving half a point).

In our first diagram, the White Queen on b6 controls every possible square that the Black King can move to, and therefore places Black in stalemate. This common stalemate position can occur when White takes the Knight's check pattern too far (see Part 1).

Essential Question, Level III: Application

If it were White's turn to move, what approach would you use to "release" the Black King from stalemate?

Stalemate, example two.



With Black to play, a stalemate has once again occurred.

Notice that Black would be in stalemate if the White King were on b3 or a3 in this position, as well. With Black to play, the position on the board is a stalemate. The White King guards b2, while the White Queen controls all of Black's remaining options. The Black King is not in check, so we can see the difference between this position and one where the White Queen is delivering a checkmate—on c2 or f1, for example.

In this position, we can see the negative effects of not using our suggested pattern in Part 2—but instead using the King and Queen together to box in the king, where they inevitably "step on each other's toes" and create this kind of catastrophe.

Using what you've learned about the proper pattern for the Queen and King checkmate, what other ways would you solve the problem of the King and Queen "stepping on each other's toes" to avoid this stalemate?

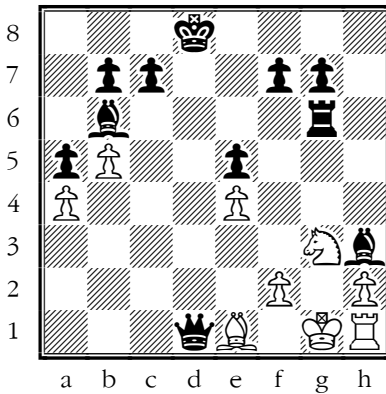
Diagram 1: A chessboard position. The board has columns labeled a-h and rows labeled 1-8. Pieces are placed on the following squares: Bishop on a3, King on d3, Queen on e2, Rook on c7, Rook on f6, Knight on f3, and King on d5. Stars are placed on the following squares: b6, c6, d6, e6, c5, d5, e5, b4, c4, d4, and e4.

In this extremely improbable, yet not impossible, position, we see an extravagant example of stalemate. Every square highlighted by a star is controlled by one or more of White's pieces, and though White would have multiple “mates-in-one” if it were White to move, with Black to play, this position is a draw.

Essential Question, Level III: Application

Based on this diagram, what could possibly be the result of a game where you have 'too many' pieces while your opponent only has a king? How would you avoid this kind of stalemate from happening?

Stalemate, example four.



This famous stalemate occurred in Troitzky vs. Vogt, 1896.

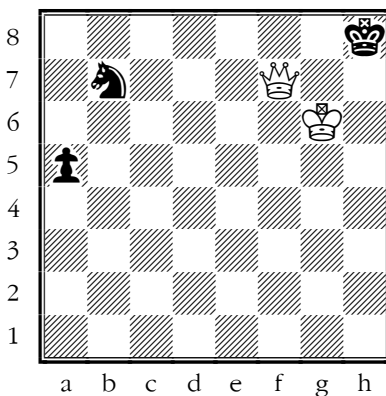
Example four reveals that not all stalemate positions occur in the endgame. Black's last move was 1...Qxd1, capturing White's sacrificed Queen and accidentally placing White in immediate stalemate.

Though White has many pieces, none can move; the Rook on h1 is trapped. The King cannot move without being attacked by the h3-Bishop. The Knight on g3, Bishop on e1, and Pawn on f2 are all "pinned" to the King (which means they cannot move without placing their own King in check by an enemy piece, which is illegal). Finally, every other Pawn is simply blocked by an enemy piece or Pawn.

Essential Question, Level III: Application

Can you make use of the facts that cause stalemate to prevent yourself from stalemating your opponent in a winning position in your own games? Explain why or why not.

Example five: a common stalemate misunderstanding.



The above position is not stalemate.

One common mistake made when evaluating whether or not a given position is stalemate is shown here. Though the Black King is trapped, having no legal moves, other pieces remain that must move. White will follow with checkmate on g7, f8 or e8 next move.

Obviously, to determine whether or not a position is stalemate, one should always look at the king's position, options for the King to move, and whether or not the King is in check. However, as we learned from the last two diagrams, the king's position and ability to move is not the only thing that determines stalemate. If there are other pieces that can move, the game is not ended in a stalemate.

Essential Question, Level III: Application

How would you organize pieces on the board to show a true stalemate and not a misunderstood stalemate?

Lesson 3 Summary and Linking Content to Standards

In Lesson 3, students learned some of the most common, basic checkmate patterns that can end (and win) a chess game. Additionally, students were provided with an in-depth description and many examples of stalemate. Knowledge of how a chess game can end in various checkmate/stalemate patterns is critical. Helping a student master the technique of basic mating patterns, and taking the time to ensure consistent recognition of these patterns, is needed to successfully win a game. The planning and coordination needed to make the King and Queen and Rook roller mating patterns work aligns with the Common Core State Standards: Geometry (K-5), in which students apply knowledge of shapes, angles and lines, and coordinates.

Students learned that checkmating an enemy King with only one piece is difficult, but the strength of the Queen with the assistance of her King is enough to forcibly checkmate a lone king. Students learned the strategy behind this checkmate and should practice it throughout the lesson on ChessKid.com as referenced. In the Rook roller, students learned the technique of using two Rooks in tandem to force the enemy King to the edge of the board, where he can then be easily checkmated.

In conclusion, students have now put the basic knowledge of the game to the test. Knowing how to checkmate an opponent (and that the consequence of *not* knowing is a stalemate, when the game ends in a draw) is key to the successful completion of a game of chess. The Common Core State Standards applied in this lesson (Geometry (K-5)) flow into the district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), where the student is expected to demonstrate knowledge through constructed responses on paper via speech, writing, illustrations, and technology.

Vertical Alignment: Common Core State Standards K-5

Mathematics: G.A.1 and 2 K-5: Geometry

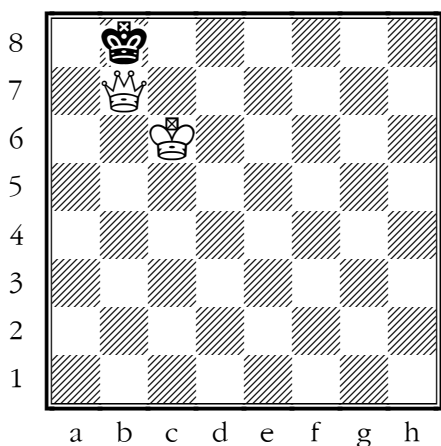
How to teach students to think critically about chess	Common Core Standards connection
Finding patterns in a chess game	G.A.1and 2 K-5

Practice Pages

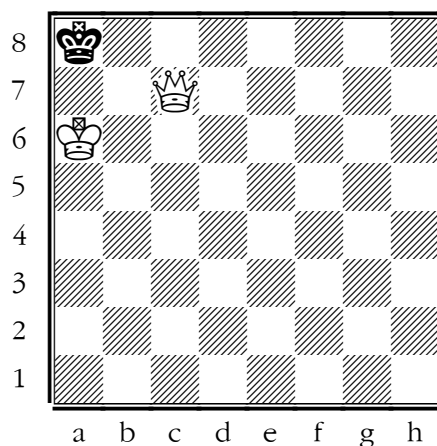
Practice 1: checkmate or stalemate?

In each of these positions, the Black King is in either checkmate or stalemate.

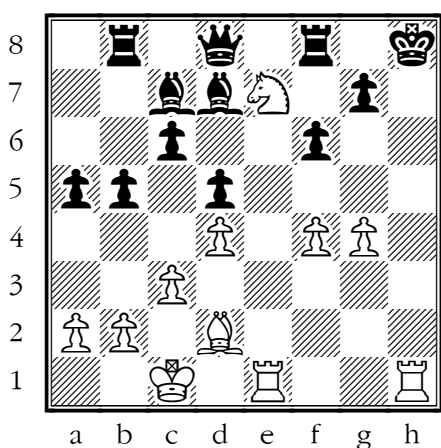
Circle the correct answer beneath each diagram.



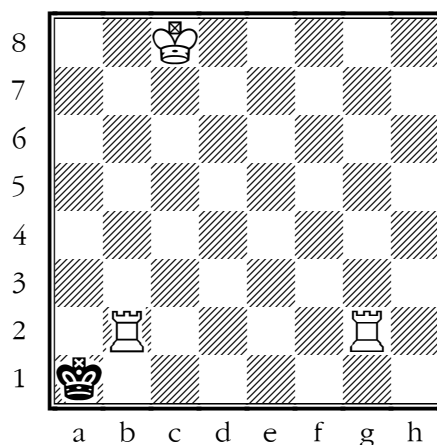
Circle the correct answer:
Checkmate Stalemate



Circle the correct answer:
Checkmate Stalemate



Circle the correct answer:
Checkmate Stalemate

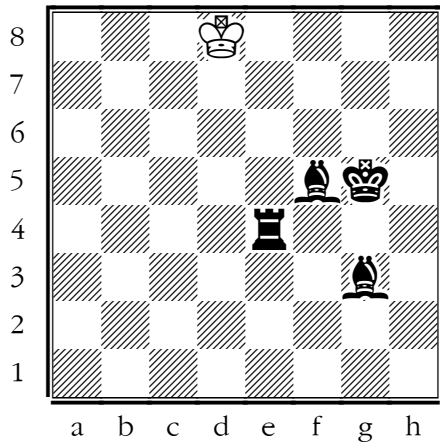


Circle the correct answer:
Checkmate Stalemate

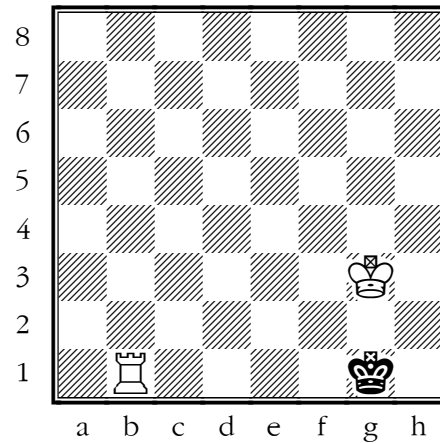
Practice 2: checkmate or stalemate?

In each of these positions, the Black King is in either checkmate or stalemate.

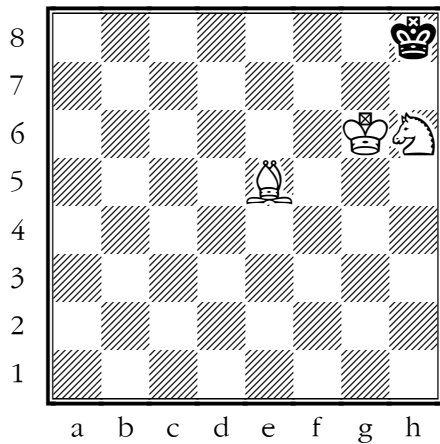
Circle the correct answer beneath each diagram.



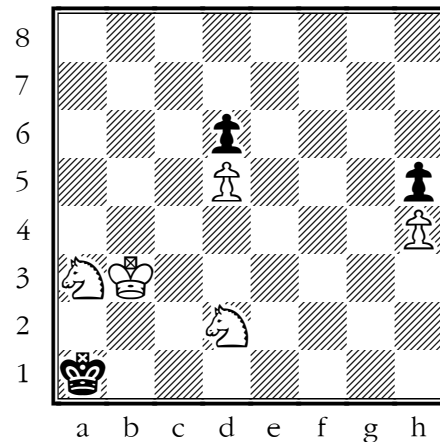
Circle the correct answer:
Checkmate Stalemate



Circle the correct answer:
Checkmate Stalemate



Circle the correct answer:
Checkmate Stalemate



Circle the correct answer:
Checkmate Stalemate

Answer Key

Practice Page 1 – Checkmate or Stalemate?

Diagram #1 Checkmate

Diagram #2 Checkmate

Diagram #3 Stalemate

Diagram #4 Stalemate

Practice Page 2 – Checkmate or Stalemate?

Diagram #1 Stalemate

Diagram #2 Checkmate

Diagram #3 Checkmate

Diagram #4 Stalemate

Classroom Activities

Activity 1: The blind Rook roller test

Activity goal: Recognizing the checkmating pattern behind the “Rook roller,” practicing common checkmating techniques, and avoiding stalemate. (Part 2)

Geometry: CCSS: Math. Content. G.A.1 (K-5)

Instructions

- Set up empty chess boards and pair off students.
- Hand the player playing White two White Rooks and the White king, and the player playing Black just a Black king.
- Have the students close their eyes and blindly place the pieces on the board.
- White must attempt the “Rook roller” checkmate pattern, regardless of where the pieces end up on the board. It is his or her job to set up and complete the exercise by coordinating the Rooks in a way that allows them to work together using the pattern they learned in Part 2.
- When White successfully checkmates Black, have the two students switch sides and repeat the exercise, this time giving the other student an opportunity to play White.
- If students accidentally stalemate one another, use this as an opportunity to discuss stalemate, what it means, and how it could have been avoided.

Coach/teacher can also give students a limited amount of time to complete this exercise (e.g., 5 or 10 minutes). Coach/teacher can also reward students for successful completion of this activity with a small prize.

Activity 2: The blind Queen test

Activity goal: Recognizing the pattern behind the Queen and King vs lone King checkmate, practicing common checkmating techniques and avoiding stalemate. (Part 1)

Geometry: CCSS: Math. Content. G.A.1 (K-5)

Instructions

- Set up empty chess boards and pair off students.
- Hand the player playing White one White Queen and the White king, and the player playing Black just a Black king.
- Have the students close their eyes and blindly place the pieces on the board.
- White must attempt the Queen and King versus lone King checkmate pattern, regardless of where the pieces end up on the board; it is her or his job to set up and complete the exercise.
- When White successfully checkmates Black, have the two students switch sides and repeat the exercise, this time giving the other student an opportunity to play White.
- If students accidentally stalemate one another, use this as an opportunity to discuss stalemate, what it means, and how it could have been avoided.

Coach/teacher can also give students a limited amount of time to complete this exercise (e.g., 5 or 10 minutes). Coach/teacher can also reward students for successful completion of this activity with a small prize.

LESSON 4

Lesson 4: Special Moves —Castling and En Passant



Overview

Lesson 4 of our curriculum focuses on two special, more advanced moves that begin to occur in tournament games. Students are shown these two special moves so that they can learn and understand not only how to use them in their own games and planning, but also to be aware of their opponents using the moves against them.

Part 1 emphasizes *castling*, a move that occurs in nearly every tournament-level chess game played. It should hardly be considered a secret or special idea, considering its common occurrence and fundamental importance. Part 1 shows students how they can castle both kingside and queenside, as well as positions in which castling is not possible because it is an illegal move. It also helps students understand why castling can be beneficial.

Part 2 teaches students a much lesser-known move known as *en passant*, which occurs a lot less often than castling does. However, knowing en passant is still important, and the lesson highlights how en passant works and why it can be so useful in stopping some of your opponent's ideas with his or her Pawns.

The Practice Pages and Classroom Activities help students get a practical grasp on these special moves. The "hands-on" suggestions in our activities will further reinforce that castling helps protect the King and connect the Rooks, while en passant prevents sneaky Pawns from evading capture. These unique calculating and pattern-based skills align with the Common Core State Standards: Geometry: K-5: angles, lines, shapes, and coordinates and Counting (K-1). A student who can recognize these special moves will be able to play them correctly and ensure that her or his opponent also plays them properly in a game setting.

Teacher's Guide

We chose to introduce these “special” moves relatively early on in the curriculum because of their overall importance to a young chess player’s growth. Lesson 4 allows kids to experience castling, something that happens in nearly every competitive chess game.

Additionally, students are exposed to *en passant*, which, though less frequent than castling, can only benefit a beginner player’s overall understanding of Pawn play and the intricacies of tournament-level chess.

We recommend using the multiple Practice Pages during the instruction process. Understanding when castling and *en passant* are possible requires some experiential learning. Once students grasp each concept, they will be able to make calculated and informed decisions on when to use each move (especially castling) in their own chess games.

Practical Notes and Advice—Lesson 4

- Lesson 4 teaches two “special” moves. If students are struggling with either of these two concepts as they move forward in the curriculum, refer back to either part of the lesson to get them back on track.
- Have students say aloud every time there is a potential opportunity for *en passant*, even if they do not play the move that would allow it to be possible. Students should be able to expect it before it is even played.
- Once students are consistently castling in their games, have them talk about the advantages of castling Kingside versus Queenside. Encourage students to engage in discussion about why castling one way may be better than the other in a given situation.

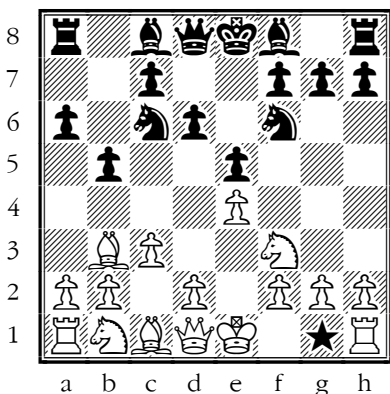
Lesson 4

Part 1: Learn to Castle

Key Concepts

- What is castling in chess?
- Why and when is it good to castle?
- When you cannot castle!

The rules of castling Kingside.



A good time to use a secret, special move!

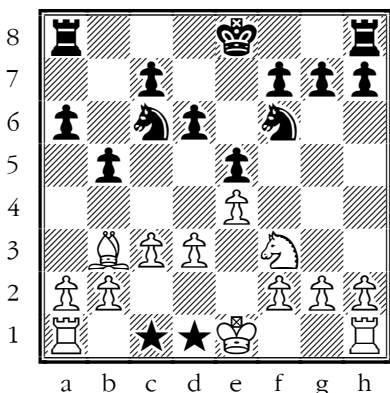
Castling is the one move in chess where you can move two of your pieces at the same time. Because the center of the board is often too dangerous for the King, there is a special move to get him out of there in a hurry. By castling, you safeguard your King and bring your Rook into the center of the fight at the same time.

To castle, move your King two steps towards your Rook. Then, put your Rook next to him, on the other side. Now your King (on g1) is hiding in the castle with his own Pawns in front of him, and your Rook (on f1) can join the fierce fighting in the middle of the board. In algebraic notation, castling Kingside is written down as "0-0."

Essential Question, Level IV: Analysis

What are the parts and features involved in castling?

The rules of castling Queenside.



Two special moves to choose between.

Castling the King to g1 and the Rook to f1, as we saw above, is called “Kingside castling” or “castling short.” This is because you are castling towards the Rook closest to the King. Castling towards the farther Rook is called “Queenside castling” or “castling long.”

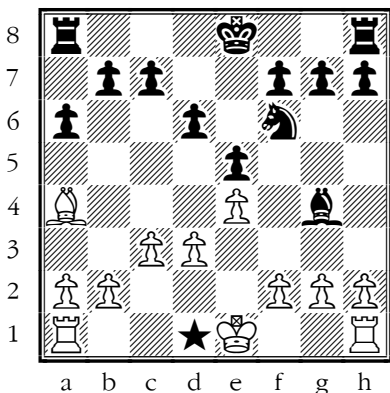
In the position to the left, the White King can castle Queenside OR Kingside. If he castles Queenside, he will end up on c1, and the Rook will end up on d1 (squares marked with stars). In algebraic notation, castling Queenside is written down as “0-0-0.”

Essential Question, Level IV: Analysis

How is castling related to King safety?

Important restrictions to castling

- You cannot castle if your King is in check.
- You cannot move your King through check.
- You cannot castle if either your King or Rook has already moved.

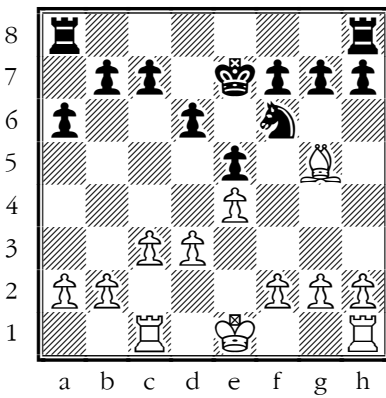


Black cannot castle while the King is in danger, and White cannot currently castle Queenside in the above diagram.

Though castling is an important step towards completing your development and safeguarding the King, it cannot be used as an “escape” from immediate danger.

In the diagram to the left, Black is not allowed to castle, because the King on e8 is in check from the Bishop on a4. Black would need to protect the King from this check before being able to castle.

Furthermore, if and when it is White’s turn, White will only be able to castle Kingside, because the d1 square is under attack from the Bishop on g4. Castling Queenside for White, in that case, would be moving the King through check, which our second bullet point states that you cannot do.



Which way can you castle?

Finally, remember that if the King or Rook has already moved in a game, even if they are moved back to their original squares, you have forfeited your right to castle to that side of the board forever.

For example, in our final diagram, if it were White to play, White would only have the option to castle Kingside (assuming neither the King on e1 nor the Rook on h1 have moved in the game yet). Even if White moved the Rook on c1 back to a1, this would not give White the option to castle Queenside again. Likewise, Black has forever lost the right to castle, even if he moved the King on e7 back to e8.

Essential Question, Level IV: Analysis

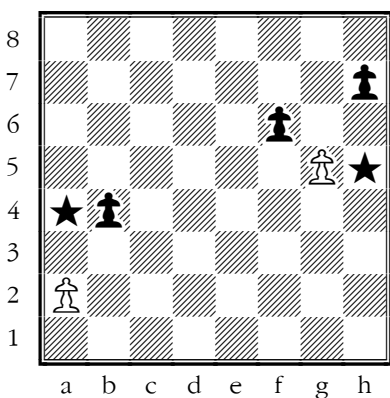
Having learned what you have about the restrictions and rules to castling, how would you summarize the importance of thinking ahead before you move any piece, especially in regards to moving your King and Rooks?

Part 2: Capturing Pawns “In Passing”—En Passant

Key Concepts

- What is en passant?
- When can a player do en passant?
- Is en passant good or bad?

En passant: the “super” Pawn capture, explained.



En passant is a chance for Pawns to be super.

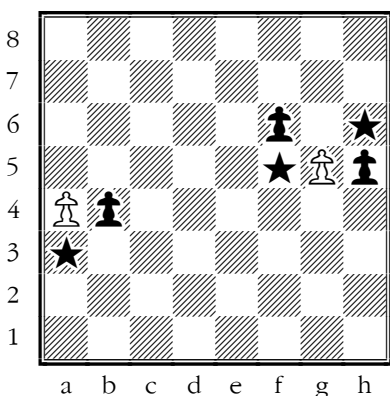
If a Pawn moves two squares ahead from its original (starting) square, and there is an enemy Pawn on one of the adjacent file's fifth (for White) or fourth (for Black) rank, *en passant* is possible. To capture en passant, a player must capture the enemy Pawn as it passes (moves two squares) on the *very next turn* after the move is made, or en passant is no longer possible.

En passant is not forced—a player is not required to capture en passant. It exists only as an option for a player to capture the passing Pawn. If a player does not choose to capture en passant immediately following the opponent's choice to move the Pawn two squares, then she or he has lost the right to capture en passant.

Essential Question, Level II: Comprehension

What is the main idea or motive behind capturing a Pawn en passant?

En passant capture is not possible if a Pawn moved only one square.



The b4-Pawn can capture en passant, while the g5-Pawn can't.

To display the idea of en passant clearly, we continue with our first diagram, but with more explanation. With White's a-Pawn moving two squares ahead from a2 to a4, directly passing Black's b4-Pawn, Black now has the option to capture the a4-Pawn by moving 1...b4xa3—capturing the a4-Pawn as if it had only moved one square. If Black wishes to capture in this way on a3, Black must do so immediately.

From the other side, Black's h-Pawn moved from h7-h5, so it would also be capturable via en passant. However, if Black's f-Pawn had advanced to f5, it would not be capturable by en passant, because the f-Pawn moved forward from f6, not f7. That means the f6-Pawn and the g5-Pawn already “had the option of capture” on g5 and f6 a move earlier. Because neither player chose to capture, en passant is not a possibility for the g5-Pawn, even if the Black f-Pawn moves forward.

Essential Question, Level II: Comprehension

How would you explain the rules of en passant capture to a beginning chess player?

Lesson 4 Summary and Linking Content to Standards

In Lesson 4, students learned two very different but equally important “special moves” that can occur in a chess game. Learning these unique moves will help students increase the depth of their own skills while also being aware of an advanced component to future critical moments of their chess games.

Mastery of special moves helps a beginner on his or her way to becoming a more sophisticated chess student, who can calculate ahead of time and see more patterns over the board. These are mathematical thinking skills as well as critical planning and assessment skills, aligned with the Common Core State Standards: Geometry (K-5).

Additionally, the Essential Questions require students to discuss their thought processes with peers and teacher, encompassing the skills developed in Common Core State Standards: ELA-Literacy: Speaking and Listening.

Students first focused on castling, a special move that is played in nearly every chess game at the tournament level. Students learned that castling can help them connect their Rooks, while providing their King with extra protection. Next, they learned about a less common move known as en passant. En passant is a special Pawn move; it prevents Pawns from being able to evade capture when they push past an enemy Pawn that has worked hard to advance up the board.

In conclusion, students have now built on the basic rules of chess from the first few lessons. Mastery of these skills ties back to the aforementioned Common Core State Standards and helps build skills necessary for district-mandated assessments, such as Partnership for Assessment of Readiness for College and Careers (PARCC).

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

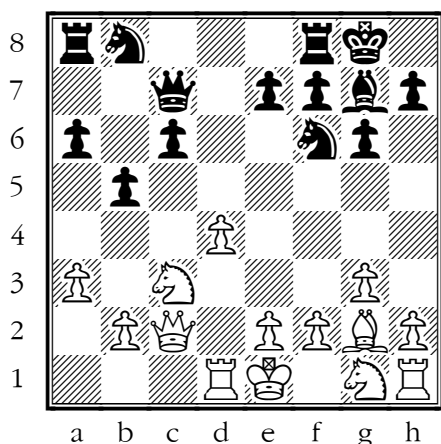
Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Practice Pages

Practice 1: Castling quiz

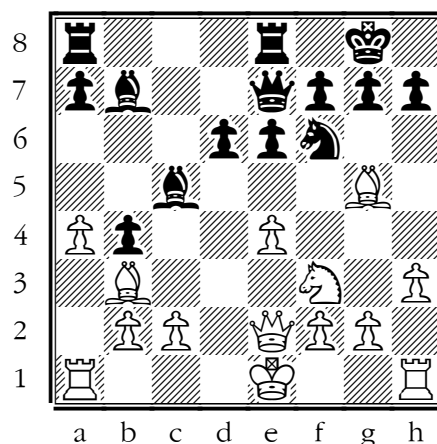
In each of these positions, you must answer one question:
can White castle this move?



Circle the correct answer:

Yes Can White castle this move?

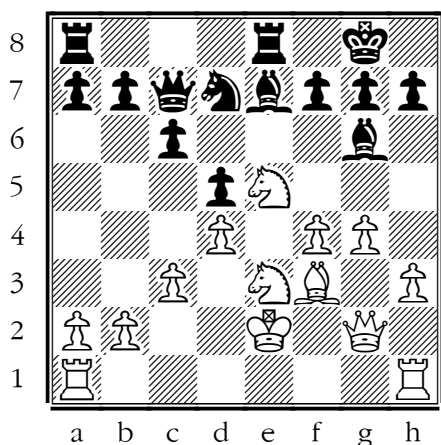
No



Circle the correct answer:

Yes Can White castle this move?

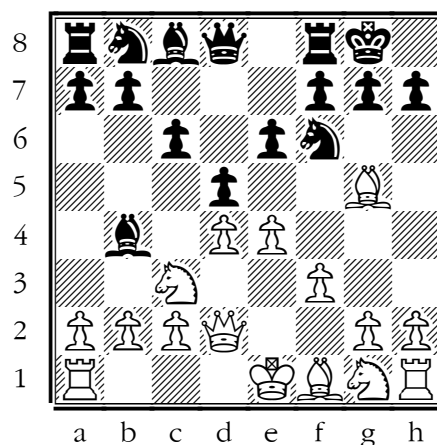
No



Circle the correct answer:

Yes Can White castle this move?

No



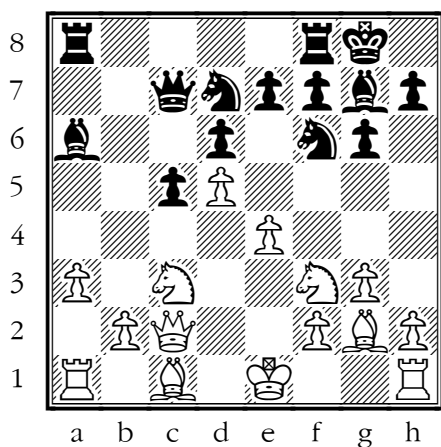
Circle the correct answer:

Yes Can White castle this move?

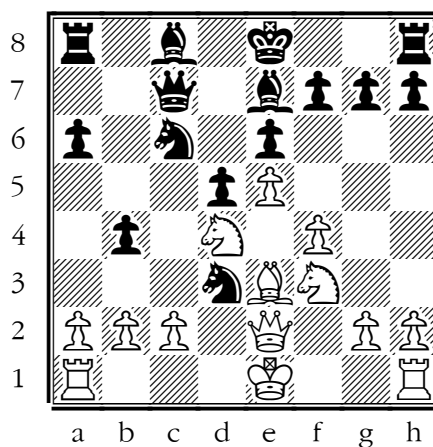
No

Practice 1: Castling quiz, continued

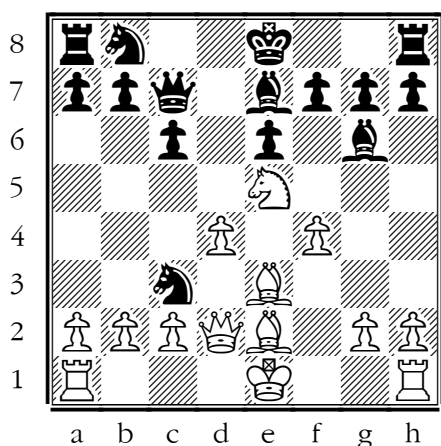
In each of these positions, you must answer one question:
can White castle this move?



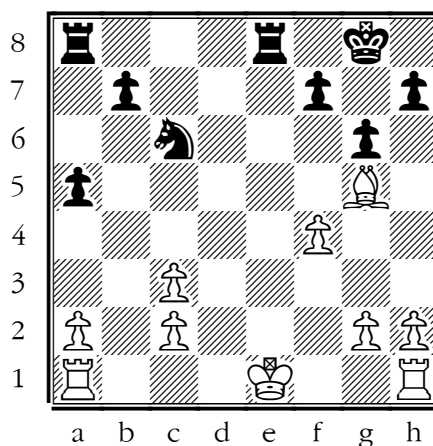
Circle the correct answer:
Yes Can White castle this move?



Circle the correct answer:
No **Yes** Can White castle this move? **No**



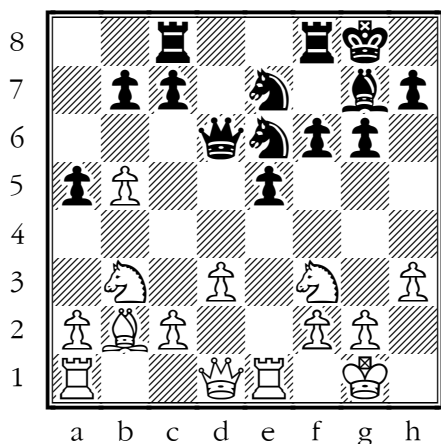
Circle the correct answer:
Yes Can White castle this move? **No**



Circle the correct answer:
No **Yes** Can White castle this move? **No**

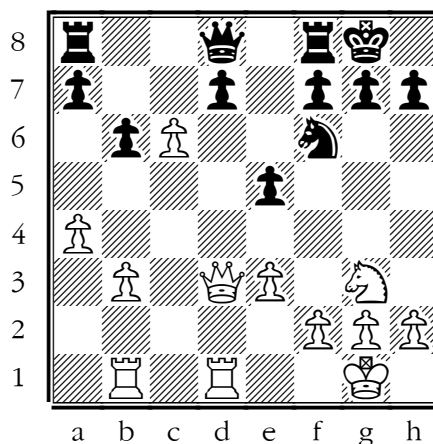
Practice 2: Can you capture en passant?

Read the caption to each diagram and circle Yes or No.



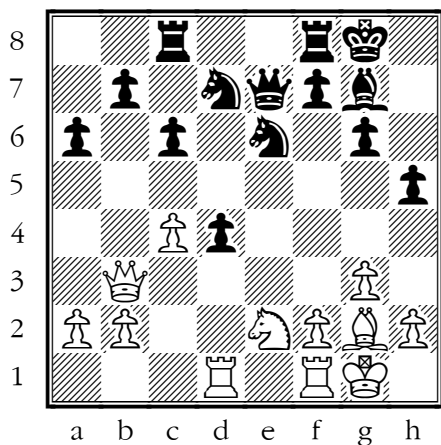
Black just played 1...a7-a5.

Yes Can White capture en passant? **No** **Yes** Can White capture en passant? **No**



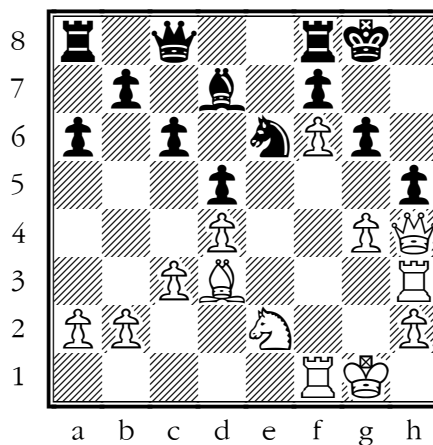
Black plays 1...d7-d5.

Yes Can White capture en passant? **No** **Yes** Can White capture en passant? **No**



White just played 1.c2-c4.

Yes Can White capture en passant? **No** **Yes** Can White capture en passant? **No**



Black just played 1...h7-h5.

Yes Can White capture en passant? **No** **Yes** Can White capture en passant? **No**

Answer Key

Practice Page 1: Castling

Diagram #1 No.

Diagram #2 No.

Diagram #3 Yes. White can castle Kingside and Queenside.

Diagram #4 Yes. White can castle Queenside.

Practice Page 2: Castling

Diagram #1 No. Passing through the f1-square would be check.

Diagram #2 Yes. White can castle Kingside.

Diagram #3 No. White is in check.

Diagram #4 No. White is in check

Practice Page 3: Can you capture en passant?

Diagram #1 Yes.

Diagram #2 Yes.

Diagram #3 No.

Diagram #4 No.

Classroom Activities

Activity 1: The castle masters

Activity goal:	Mastery of when a King can castle, reminder of the benefits of castling. (Part 1)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair off the students.
- Students should begin a normal chess game. Coach/teacher should tell students that their goal is to castle legally and as quickly as possible. Once a student castles, he or she should raise his or her hand and show coach/teacher that she or he has successfully castled.
- Coach/teacher should also ask the student, once she or he has castled, to name at least two advantages to castling (i.e., protecting the King behind a Pawn wall, connecting the Rooks, etc.)

Coach/teacher can reward the students who castle the quickest with a small prize. Additionally, for those who struggle to castle correctly or quickly, coach/teacher can provide multiple opportunities until the student does so successfully.

Activity 2: Race to castle

Activity goal:	Mastery of when a King can castle, reminder of the benefits of castling. (Part 1)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair off the students.
- Students should begin a normal chess game.
- Coach/teacher explains that in most high-level tournament games, players are castled before move 10, and never later than move 15.
- Coach/teacher explains that the first person to safely castle (i.e., the first student to castle in the position without making any other obvious mistake) wins the race.
- The player who wins the race gets to make a second move for free, giving him or her a head start to a plan and providing a concrete “chess-specific” reward to the importance of getting castled quickly.

Activity 3: Watch for the pass

Activity goal:	Mastery of en passant: recognizing when en passant is possible and how it is beneficial. (Part 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up chess boards and pair off students.
- Have students sets up each of their Pawns on their normal starting squares.
- Each student has a goal: to get one of the Pawns to the other side of the board.
- During this game, have students look for opportunities to play en passant. If they see a potential en passant, they should raise their hands and notify coach/teacher, explaining why en passant is possible in the position and why they elect to play en passant or a different move.
- Students may not have any opportunities for en passant, since it is rarer than other special moves like castling (and that's okay).

Coach/teacher can walk through the room and evaluate that the students are correctly utilizing en passant during this exercise.

SECTION 2

Section 2: The Basics of Chess



LESSON 5

Lesson 5: How to Win Points (Material) in Chess



Overview

Lesson 5 of our curriculum emphasizes the importance of coming out ahead in all trades and captures in chess. Having more pieces than your opponent—especially more valuable pieces—is likely to contribute to a future checkmate, and thus to winning the game.

Part 1 explains to students what an undefended or “hanging” piece is, so they can begin seizing their chances to take free pieces in their games. Students are shown different ways to identify an opponent’s loose pieces, and the value of capturing those pieces while they are unprotected. Additionally, students see examples of how to identify their own “hanging” pieces and keep their pieces from being easily captured.

Part 2 emphasizes that not all pieces will be easy to capture because they are undefended. However, there are several examples of when it can be a good idea to capture a protected piece, because students gain a valuable edge in material by capturing an opponent’s piece that may have more value than the piece they have to give up in exchange.

The Practice Pages and Classroom Activities help students further master when they should capture enemy pieces. Students practice recognizing unprotected opponent pieces while also learning to defend their own weak pieces: skills that will help them get an edge in material and increase their chances of winning the game. These skills align with the Common Core State Standards: Geometry and Counting (K-5). Discussion of concepts and positions in a game with peers and teachers aligns expectations in the Common Core State Standards: ELA-Literacy: Speaking and Listening. Students can now effectively calculate when piece exchanges are favorable in a game, and explain their ideas and planning.

Teacher's Guide

Students will need to learn the basics of capturing and defending pieces before they are truly ready to play (and win) a chess game. Through this lesson, your students will learn to:

- Recognize which pieces are defended, undefended, and unable to move.
- Take advantage of each of those situations by learning how to “count” the number of attackers and defenders each side has.
- Keep track of the value of the chess pieces during this calculation process (that’s right, your students are learning to calculate and think ahead in chess).

Practical Notes and Advice—Lesson 5

- Remind your students that eliminating the enemy King’s “army” is the first step to isolating the King, and eventually achieving checkmate—and that’s how you win.
- Review the “doggy pile” concept carefully, ensuring that your students have grasped the idea of counting the number of attackers and defenders, as well as their point values, along the way.
- Find moments to mention that it’s great to keep an eye out for undefended pieces and immobile pieces (for both yourself and your opponent). This is something you’ll want to repeat at appropriate moments in future classes, because doing so is fundamental to recognizing tactical opportunities.

Lesson 5

Part 1: Capturing Free and Undefended Pieces

Key Concepts

- Recognizing and capturing undefended pieces.
- What is a “loose” or “hanging” piece?
- Protecting your own “loose” pieces and weak spots.

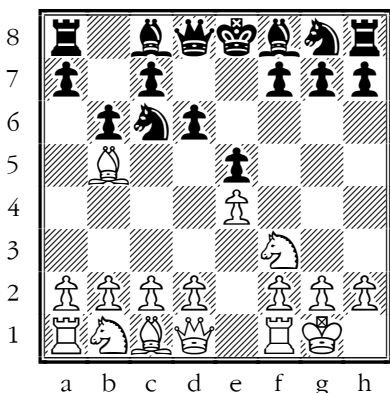
Why we need to win points in chess

Even though it's possible to win a chess game while having fewer pieces than your opponent, it is not common. Furthermore, winning chess games early, with an opening trap or quick mate (as we will learn in future lessons), becomes less and less likely as you face tougher competition. We know that the surest method to winning a chess game is to deprive the King of his allies: to take your opponent's pieces and win points!

Once the King is alone, it's not so difficult to corner and checkmate him. Today, we are going to learn some techniques to eliminate every last member of the opposing army, and hopefully maintain most of your pieces along the way.

So how do we win points in chess? Well, we use *tactics*. But before we learn advanced tactics, we need to know the most basic tactics of all: how to capture loose, undefended pieces. In Part 1 of this lesson, we learn to look for chances to capture enemy pieces that are free to us. Every single piece counts, so winning a free piece from your opponent almost always puts you on the road to victory! We will also learn how to defend your pieces, so that your opponent can't return the favor. Let's get started.

Take undefended guys: look for free pieces.



Which piece would be better for White to capture?

Look at the example on the left. It is White to move; can White capture any of Black's pieces? The answer is **yes!**

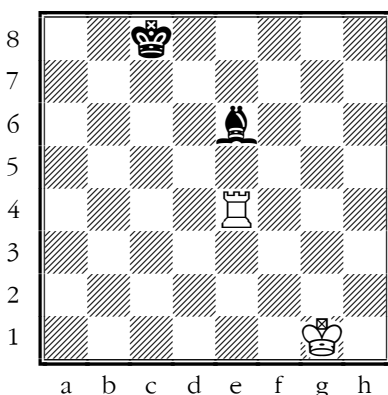
White can capture two different pieces: the Black Knight on c6, or the Black Pawn on e5. Which one would be better to capture?

The answer is that White should capture **the Knight on c6**, because that piece is *undefended*. Once White captures that Knight, Black will not be able to capture the White Bishop in return. If, on the other hand, White were to capture the Pawn on e5 with the Knight on f3, Black would just capture the Knight by the Pawn on d6. The Pawn on e5, therefore, is *defended*, so capturing it does not win material for White.

Essential Question, Level III: Application

What questions would you ask yourself before capturing a piece?

Keep in mind that pieces move in different ways.



One piece attacks, while the other does not.

Remember, each piece in a chess game has different capabilities. While one piece might attack another, that piece is not necessarily returning the attack.

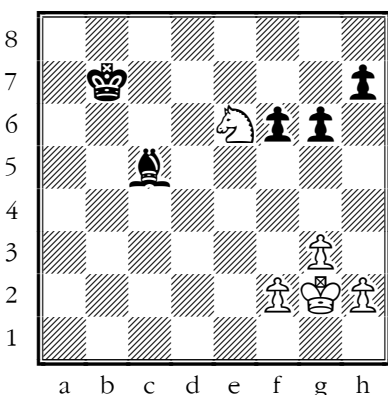
Here, the White Rook is attacking the Black Bishop, but is the Bishop attacking the Rook? No. If it is White's move, it should capture the Bishop before Black has a chance to move or protect the Bishop.

If it is Black's turn, its Bishop cannot capture the White Rook, since Bishops do not move that way. Therefore, if it is Black's turn, it should instead turn its thoughts to defense, by either moving the Bishop to a safe square (perhaps one that attacks the Rook but does not place it under attack, like d5), or protecting the Bishop, with the move 1...Kd7.

Essential Question, Level III: Application

What approach would you use to explain this position to a newcomer to chess? How would you explain the concept that not all pieces are always attacking each other in the same way they are being attacked?

Defense, defense!



Black to move and defend against White's threat.

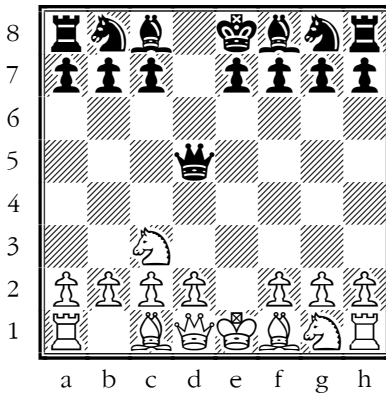
While capturing your opponent's pieces might be fun, it is just as important to prevent them from capturing yours.

Let's look at the diagram to the left. If it were White's move, what would it do? That's right; White would capture the unguarded Bishop on c5 for free. However, if it were Black's move, then it would have the chance to deal with White's plan and stop White's threat.

Black has two ways to save the Bishop in this position.

1. Simply **move** the Bishop away. For instance, Black could move the Bishop to e7, or b4, where it is out of reach of the Knight.
2. **Defend** the Bishop. The way to do this would be to move the King to c6 or b6. Then, if White insists on

When defending a piece is not enough.



*Should you defend or
move the Black Queen?*

When attacking and defending, it is important to keep in mind the values of the pieces. It does not do much good to defend a piece if the defended piece is worth more than the attacking piece!

Look at the position on the left. The White Knight is attacking the Black Queen. Would it be good for Black to play the Knight to f6, thus defending the Queen and allowing a trade? Would that be an equal trade?

No! If Black played the Knight to f6, White should (and would) happily capture the Queen anyway. Black would then recapture the White Knight. The result would be that White would win the Queen, while Black would win a Knight. I will leave it up to you to decide which piece is more valuable.

Essential Question, Level III: Application

If defending the Queen isn't good for Black, how would you solve this puzzle by choosing what move would you play for Black? Explain your answer.

Part 2: Counting Attackers and Defenders

Key Concepts

- Recognizing defended and undefended pieces.
- Counting attackers and defenders.
- Finding trapped pieces.
- Destroying the enemy army.

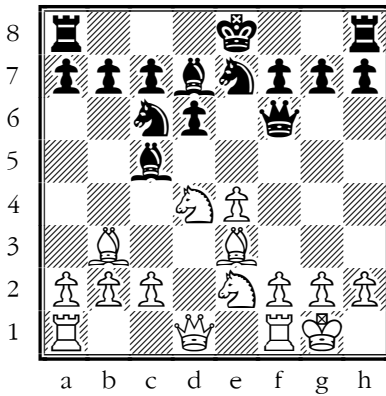
Attack and Defense

In Part 1, we learned about undefended pieces—sometimes called *hanging* or *loose* pieces. We also learned about how to protect a piece.

But attack and defense can get more complicated than that. Sometimes, you might be attacking a piece that is defended, but you have two attackers. Or there might be an equal number of attackers and defenders. Sometimes, one side's pieces are worth more than the other's, and you have to take that into account as well. All in all, attack and defense can get pretty tricky.

But don't worry—with time, you will learn to figure it out. Here we will learn how to count attackers and defenders and look ahead to see what might happen if one side starts capturing.

Counting defenders and attackers: the key to a good or bad capture.



Look at the Knights on d4 and c6. They are safe in the middle of the fighting because of the defenders we have counted.

Look to the example on the left. If the Black Knight on c6 takes the White Knight on d4, then White takes back with his Bishop on e3. Then the Black Bishop on c5 could take on d4, but White's Queen on d1 will take back. If Black's Queen then takes, White's Knight on e2 will take capture back. "take back" is a new phrase – define?

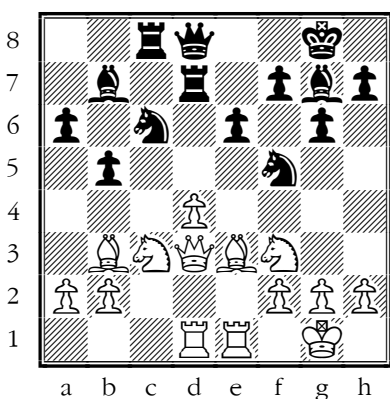
All these captures are equal, so this is called "trading." If White takes the Black Knight on c6, you'll also see that the Black Knight is defended enough times, and White will lose the same pieces that Black does. It's important to get good at counting and keeping track of what pieces are getting traded in a chess doggy pile. Deciding if it's a good trade for you or your opponent will be based on what pieces you gave up, and what pieces you got.

Let's practice. Imagine the moves 1...Nxd4 2. Bxd4 Bxd4 3. Nxd4. What has been captured? Answer: Nbnb

Essential Question, Level II: Comprehension

What is meant by counting, and how can it help us decide what is a good or bad capture?

More doggy piles—counting attackers and defenders in tricky positions.



The Pawn on d4 is the center of attention: an awful lot of pieces are attacking and defending him.

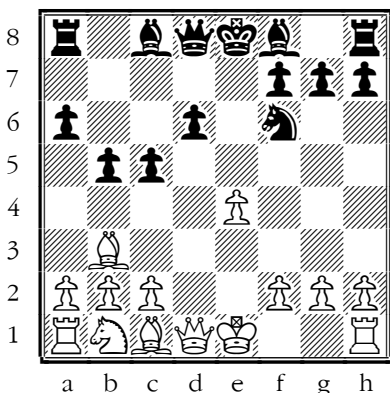
Sometimes a piece is defended, but also attacked more than once. Look at the Pawn on b5. Two pieces are attacking it (Knight on c3 and Queen on d3), and only one piece is defending it (Pawn on a6). So even though it's defended, if White starts capturing, he'll win the fight... right? 1.Nxb5 axb5 2.Qxb5 – but who won more points? Black lost two Pawns and White lost a Knight, so Black actually comes out ahead one point.

It's very important to look at the total attackers and defenders and decide who would win if everyone just started capturing everyone, but it's even more important to remember their values (which you learned in the introduction lesson). Imagine the doggy pile that could happen on the White d4-Pawn! Who would come out on top? Start imagining the captures in your head, and see if you can keep track of who would capture more pieces. Black has five attackers versus four defenders, so the Black Queen on d8 should come out on top. Captured pieces would be ♖♘♙♚♛♞ —a great trade for Black!

Essential Question, Level II: Comprehension

How would you rephrase the concept of a “doggy pile” to convey the concept of “a bunch of captures” to a chess newcomer?

Catching (trapping) the pieces who can't move: example 1.



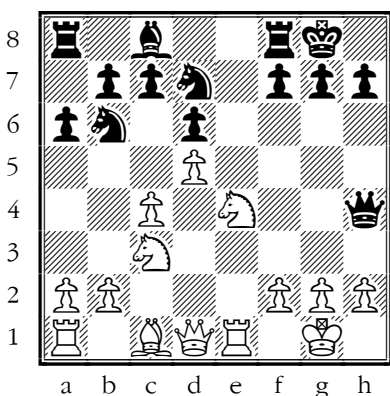
If you attack an enemy piece, a skilled opponent will tell the piece to run away. So it's really good to be able to spot pieces that can't move, and seize your chance to catch or trap them. If you attack a trapped piece, they can't get away, and that's your chance to win some points.

Look to the left. The White Bishop on b3 can barely move. With White Pawns behind him, and Black Pawns closing in on him from the front, he is nearly trapped already. Do you see that Black can close the trap on him by advancing the c5 Pawn to c4? On the next move, Black can capture him.

Essential Question, Level III: Application

Can you construct your own example (and create it on a board) of how a piece might be trapped?

Catching (trapping) the pieces who can't move: example 2.



The Queen on h4 can barely move. We need a way to attack her and take away her escape squares at the same time.

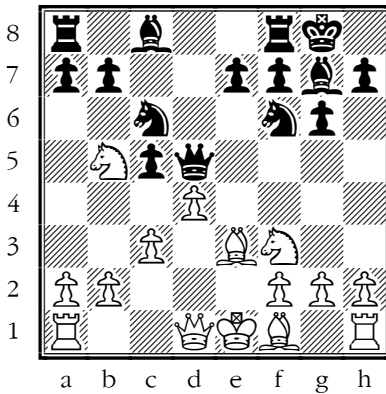
In this interesting situation, the normally lightning-quick Black Queen can only move to a few squares. There is only one diagonal on which she can retreat from h4: g5-f6-e7-d8. White can lay a very nice trap in this position. White needs to stop the Queen from escaping along that diagonal, and attack her at the same time. Can you see how?

The Bishop on c1 does the job with the help of the Knight on e4. 1.Bg5. Now the Bishop is defended by the Knight, blocking the Queen's escape, and attacking her at the same time. White will be able to capture that Queen on the next move.

Essential Question, Level III: Application

If it were Black to play, how would you solve this problem for the Black Queen with what you have learned so far?

Double attack.



White's turn: How can they win material points?

Attacking two things at once is a very important concept in chess. You will be learning a lot about it in this course, but for this diagram, we will just introduce it.

If you attack one piece, your opponent will probably see the attack, and defend the piece or move it away. But if you attack two pieces at once, the chances are he or she will not be able to deal with both!

Look at the position to the left. Here, White can attack both the Black Queen and Rook with one move: Knight to c7. No matter what Black does, they will lose one of those two pieces! This is the power of the double attack.

Essential Question, Level III: Application

In two paragraphs how you would use the concept of Double Attack in a game, and how you might defend against your opponent's double attacks?

Lesson 5 Summary and Linking Content to Standards

In Lesson 5, students learned that a player who has more pieces of higher value significantly increases the chance for victory; hence the importance of learning to “count” in chess! Understanding the value of good piece exchanges and when a trade is favorable to a student aligns with crucial Geometrical and Counting strategies, outlined in the Common Core State Standards: Geometry (K-5) and Counting (K-1). Additionally, group discussion about the concepts in this lesson applies skills outlined in Common Core State Standards ELA-Literacy: Speaking and Listening (K-5).

Students first learned how to identify a piece that is unprotected, or “hanging.” Between the lesson diagrams and practice pages, students will have seen several examples of pieces that were loose, and therefore vulnerable to attacks and captures. Additionally, students learned to identify and protect their own pieces when they were unprotected, and the advantages of points/material. Furthermore, students learned to calculate if an exchange would be beneficial to them or not, by keeping track of the value of each piece involved in the “doggy pile.”

Students have now learned to calculate piece exchanges effectively and strategically, discuss concepts learned with peers and teachers, and apply this knowledge in a game. Students know the value of the pieces, and how to identify weak or “hanging” pieces their opponent may have. These skills greatly increase their chances for victory in a chess game, and naturally align with district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), including the ability for a student to elaborate on information provided, express ideas with others through collaboration, and demonstrate knowledge through constructed responses on paper through writing, illustrations, and technology, when appropriate. Such assessments also expect students to demonstrate the ability to argue and critique a topic productively and demonstrate mathematical (i.e., the value of the pieces and tracking attackers and defenders) thinking.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

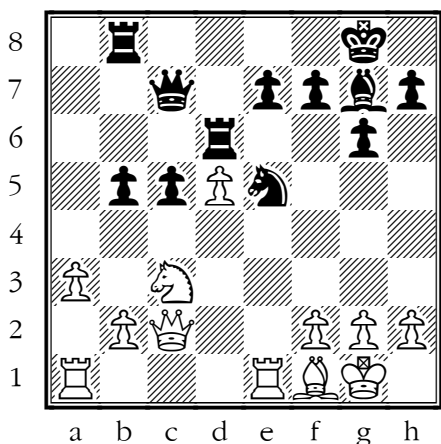
Practice Pages

Practice1: Is it defended?

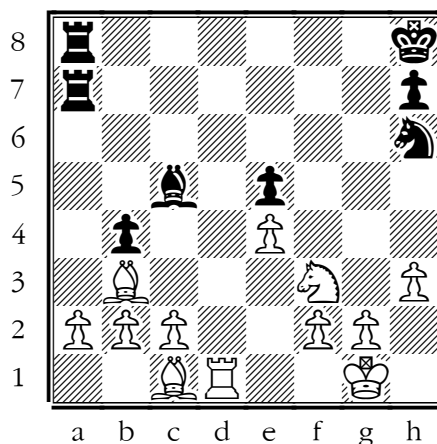
In each of these positions, the Black Knight is attacked.

Under the position, circle "yes" if it is defended, or "no" if it is undefended.

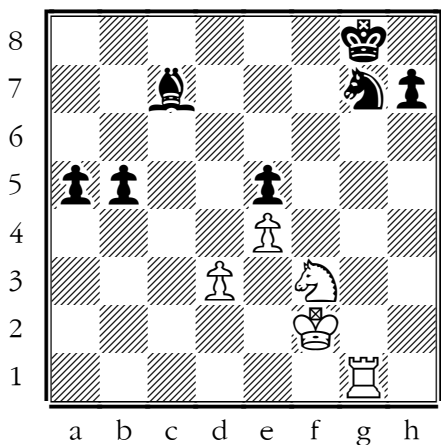
BONUS: Circle the defending piece.



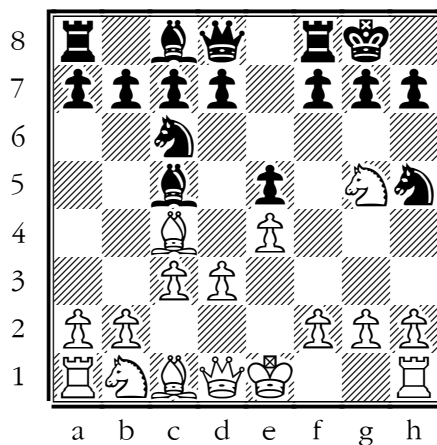
Yes Is the Knight defended? **No**



Yes Is the Knight defended? **No**



Yes Is the Knight defended? **No**



Yes Is the Knight defended? **No**

Practice 2: Doggy-pile quiz.

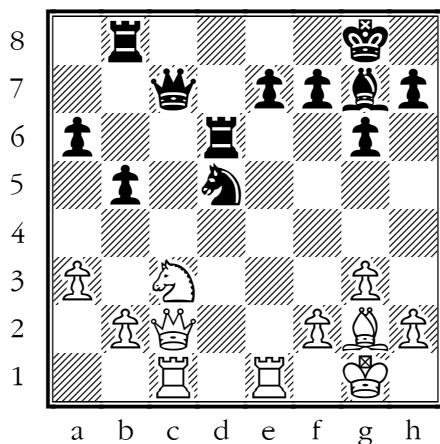
In each of these positions, White can capture on d5.

If it does, there could be a doggy pile!

Circle "White" if you think it would be a good trade for White;

circle "Black" if you think it would be a good trade for Black.

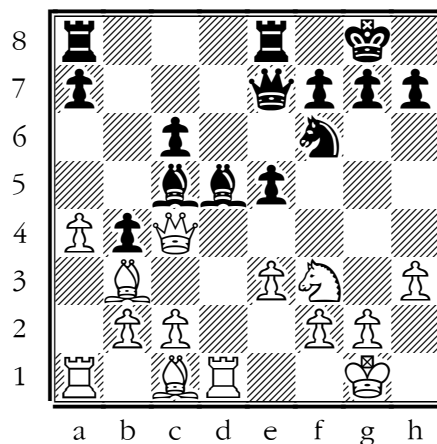
Circle the d5 square if you think the trades are equal.



Who gets the better doggy pile?

White

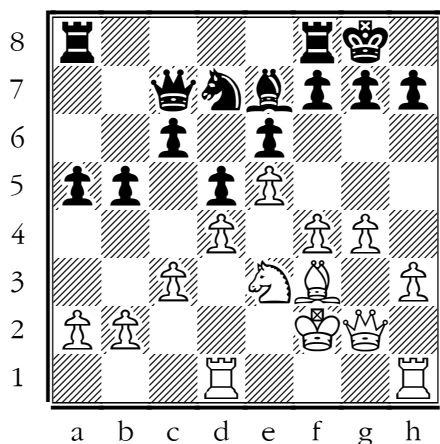
Black



Who gets the better doggy pile?

White

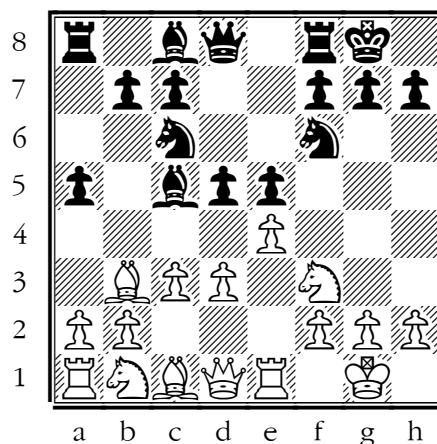
Black



Who gets the better doggy pile?

White

Black



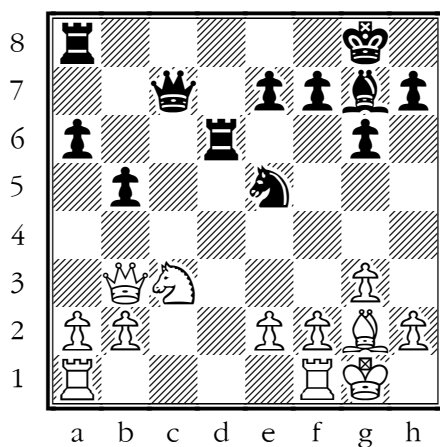
Who gets the better doggy pile?

White

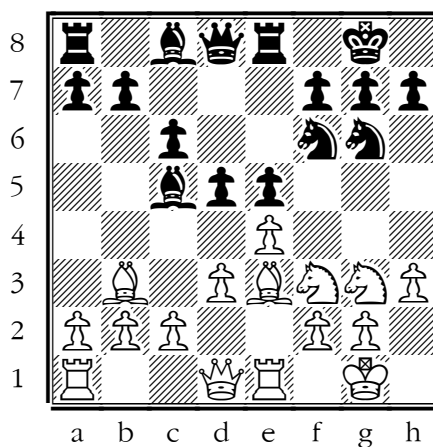
Black

Practice 3: Who's hanging?

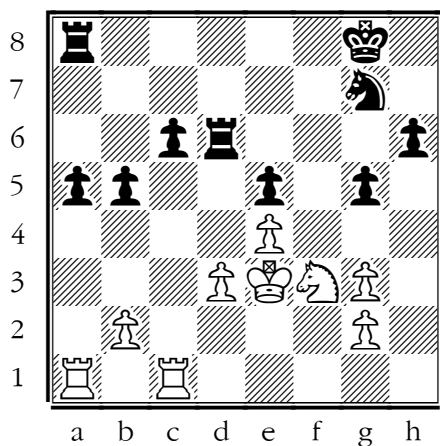
In each position, Black has a hanging (undefended) piece. *Find and circle it.*
 BONUS: *Draw a line to show which White piece can capture the "hanging" piece.*



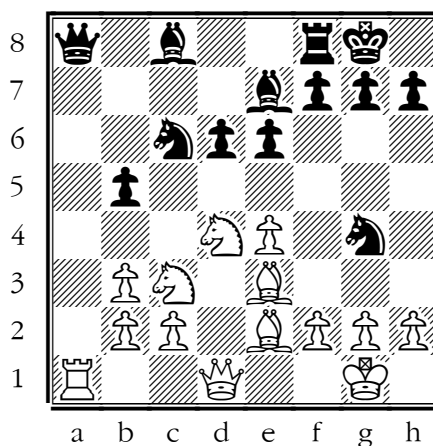
Which Black piece is hanging?



Which Black piece is hanging?



Which Black piece is hanging?



Which Black piece is hanging?

Answer Key

Practice Page 1: Is It Defended?

Diagram #1 Yes. Black Bishop on g7 should be circled.

Diagram #2 Yes. Black King on g8 should be circled.

Diagram #3 No.

Diagram #4 No.

Practice Page 2: Doggy Pile!

Diagram #1 Circle White. Knight on c3 and Bishop on g2 are attacking.

Diagram #2 Circle Black. Black's Pawns are of "less value" and so don't offer a good trade return for White's Knight, Bishop, and Queen.

Diagram #3 Circle Black. Black's Pawn on c6 and Bishop on d5 are of "less value" than White's Rook and Queen.

Diagram #4 Circle d5-square. Trade is equal.

Practice Page 3: Who's Hanging?

Diagram #1 Black Rook on a8 is hanging. Arrow drawn from White Bishop on g2 to a8.

Diagram #2 Black Pawn on e5 is hanging. Arrow drawn from White Knight on f3 to e5.

Diagram #3 Black Bishop on c5 is hanging. Arrow drawn from White Bishop on e3 to c5.

Diagram #4 Black Queen on a8 is hanging. Arrow drawn from White Rook on a1 to a8.



Classroom Activities

Activity 1: Pieces on the loose

Activity goal:	Mastery of identifying “hanging” or loose pieces, calculation of piece exchanges, and who comes out ahead of a particular exchange. (Parts 1 – 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)

Instructions

- Set up an empty demo board (or use an Analysis Board on ChessKid.com) and have students gather as a group.
- Coach/teacher should set up a position in which several White and Black pieces can be captured, some for “free” because they are unprotected, and others as part of a potential trade, or “doggy pile” in the position.
- Have each student take turns identifying a possible capture/trade and explain the change in material for each side (i.e., White captures a free Rook and gains 5 points in material, or Black captures a Knight and gives up one Pawn, so he gains 2 points, etc.)
- Coach/teacher can perform this exercise multiple times with different pieces and positions.

NOTE: There are many tools available on ChessKid.com (Lessons, Puzzles, etc.) that will offer practical opportunities to stop and count what’s going on in the position. Reviewing students’ games played on the website is another great way to engage their focus in the concept of counting.

Coach/teacher should ensure all students have a good grasp on identifying loose pieces and beneficial exchanges that lead to a material advantage before leaving this activity. It is important to make sure all students are involved in the group/classroom discussion.

Activity 2: Show me the captures

Activity goal:	Mastery of identifying “hanging” or loose pieces, calculation of piece exchanges, and who comes out ahead of a particular exchange. (Parts 1 – 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)

Instructions

- Set up chess boards and sets and pair off students.
- Have students begin a normal chess game. Any time a capture occurs on the board, have students raise their hand.
- Students should explain the capture (e.g., a Queen captured a Knight for free, or a Knight captured a Bishop and then was recaptured by a Pawn) and elaborate on whether the piece was free because it was unprotected or part of an exchange/trade. If the capture was part of a trade or “doggy pile,” have students identify who benefited most (e.g., White won the exchange or trade because he captured a Rook and only lost a Bishop).
- Have students do this exercise throughout a game.

NOTE: Again, if computer or tablets are available, pairing off students against one another in Fast Chess or Slow Chess on ChessKid.com can also accomplish the same goal and may save time otherwise spent setting up boards and sets.

Coach/teacher can award students with small prizes for recognizing and explain the advantages behind a variety of captures and exchanges.

LESSON 6

Lesson 6: Phases of a Game, Planning, and Your Opponent



Overview

Lesson 6 is the first section of our curriculum that deals with the abstract nature of chess. It speaks in general terms about the phases of chess, strategy, and planning. It is also the first lesson to delve into the practical aspects of critical thinking, for both you and your opponent.

Part 1 aims to present the reasonable and expected plans for each stage of a chess game. Part 2 examines which moves ought to be considered on each turn. And Part 3 takes a look at the same, very important concepts presented in Part 2, but from the opponent's perspective. This introduces the first real challenge for a young chess player: winning a chess game is about more than just executing your own plan, but also preventing the opponent's.

Along with the Practice Pages, the Classroom Activities are essential at this stage in the learning process, and this is where the implementation of the Common Core State Standards can be readily seen. The English Language Arts Speaking and Listening standards and the Mathematics standards of Geometry (K-5), Count sequence (K-1), and Addition and Subtraction of whole numbers within 20 (1-2) are directly evident in these activities in various ways. Instructors will use their professional judgment to determine how much of each standard should be addressed per grade and ability level as lessons progress.

Students are evolving beyond the basic understanding of moving the pieces and starting a game, and growing into making good checks, trades, and attacking decisions. Learning how to collaborate with others, express ideas and thoughts, and apply mathematical reasoning will continue to increase development of chess skill and concepts. You will find that many of the activities included can be varied in difficulty, making them useful activities to return to later on in your students' growth.

Teacher's Guide

When introducing the stages of a chess game, the most important thing for the students to understand is not just that there are three very different stages—the Opening, the Middlegame, and the Endgame—but that the plan and goals for a player will also change greatly throughout the game at these different points. The critical details and strategies of these stages are broken down and given more attention in each part of Lesson 6.

This is a three-part lesson. We recommend using the multiple Practice Worksheets included during the instruction process of Parts 2 and 3. Understanding and then recognizing every check, capture, and Queen attack is much easier with practical exercises. The positions are designed to be simple and ask questions that embed deeper learning principles into the minds of our beginning chess players.

As with all our lessons, we recommend utilizing the Essential Questions section throughout the lesson. Doing so will increase overall development of skills and concepts and further the students' progress in understanding the stages and concepts of thinking about opponent's threats and plans throughout a game.

Practical Notes and Advice—Lesson 6

- Lesson 6 teaches several general concepts and themes that can apply to many other parts of a child's critical thinking development in chess. Because of that, we recommend you refer back to Lesson 6 when in need of guidance or further explanation of a particular topic or idea that gets repeated from this lesson. For example, Lessons 7 and 8 provide more on the Opening; Lessons 9 through 12, as well as 17 through 20, give more on the Middlegame; and Lessons 13 through 16 offer more on the Endgame.
- Taking a break from instruction to allow for practical games will help keep the focus and energy level of your students higher. During the study of Lesson 6 (Parts 2 and 3), ask the students to tell you (or one another in large classes) out loud every time there is a potential check, capture, or Queen attack on the board.
- In one-on-one lessons, have the students also tell you when their opponent has a check, capture, or Queen attack.
- Once the basic recognition of every check, capture, and Queen attack is no longer an issue, ask the students to explain whether each particular check, capture, or Queen attack is a good or bad move, and why.

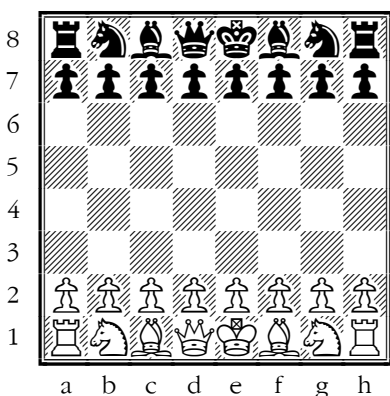
Lesson 6

Part 1: The Three Phases of a Chess Game

Key Concepts

- Introduction and description of the three phases of a chess game: Opening, Middlegame and Endgame.

Phase 1: The beginning of every chess game is called the Opening.



The Opening stage of the game starts with move 1.

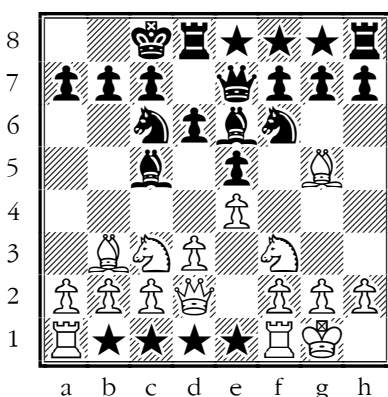
The Opening is the beginning of a chess game. The Opening starts from the time when the very first move is played, and continues until all the pieces are developed.

Though we go deeper into the ideas and strategies of development in Lesson 8, here we offer a basic definition of the word *development* in regards to chess: the act of bringing one's pieces out from their starting positions.

Essential Question, Level I: Knowledge

How would you describe the Opening to a newcomer to chess?

Phase 1 continued: the Rooks are connected, King is safe, and the Opening is completed.



Transition from Opening to Middlegame completed...

In this diagram, we see both sides have developed their pieces and found long-term safety for the King (by castling). Those two things are considered the most important steps of the first phase of a chess game. We find these two tasks (and development) are complete once the Rooks become connected by a direct line of unoccupied squares. You can see that both Black and White have achieved this goal.

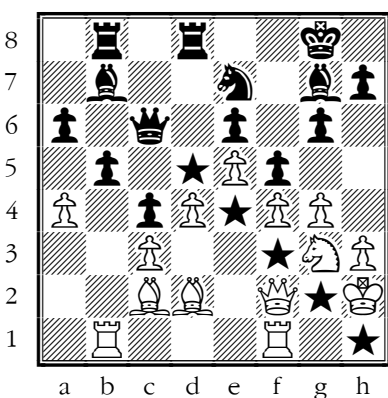
Here we also see a simple example of where the Opening and the Middlegame meet: development is finished, but no real threats or long-term plans exist for either side yet.

In this position, all pieces have been developed, and it is now time for each player to begin Phase 2.

Essential Question, Level I: Knowledge

How would you describe the transition from the Opening to the Middlegame?

Phase 2: the “main battle” for every chess game happens in the Middlegame.



*A famous Middlegame:
0-1 Gligoric-Smyslov, Kiev
1959*

The Middlegame starts when both players have brought out all of their pieces, and are now looking for plans of attack on their opponent's Pawns and pieces, as well as defense of their own army.

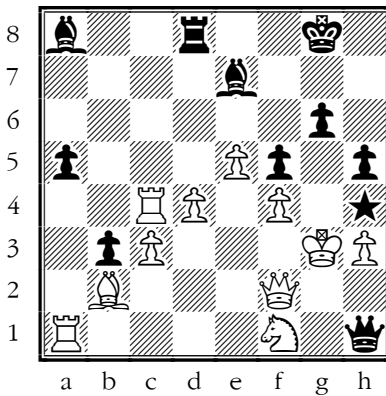
In Lesson 5, you learned the basics of attack, defense, “doggy-piles,” and counting, and that knowledge is most useful in the Middlegame.

Though you will learn more about specific tactics in Lessons 9-12, normally the best type of tactic or “plan of attack” for your pieces is against the enemy King. Many great chess champions have won games by starting a checkmate attack: using your pieces against the King in hopes of achieving checkmate.

Essential Question, Level II: Comprehension

Can you explain what Black is trying to achieve in the diagram? Use your own words.

Phase 2 continued: in the Middlegame, coordinate the pieces for attack/defense.



With strong attacking play, the Middlegame might end in checkmate.

In the famous game shown at left (continued from above), Smyslov used his Queen and Bishop along the h1-a8 diagonal to attack the white King. Black's last move, 39...h7-h5!, threatens the unstoppable checkmate with Pawn to 40... h4. Grandmaster Gligoric resigned.

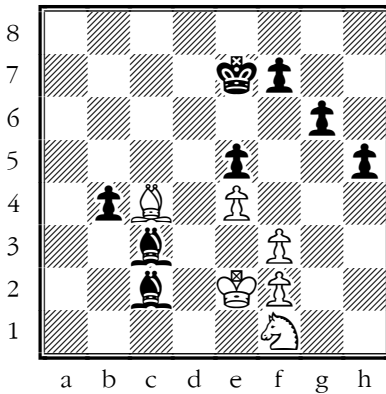
This example was designed to show that with good tactics, a strong checkmate attack might actually turn the “middle” of the game into the “end” of the game. Pawn play or “positional” chess is also an important, though more advanced, part of the Middlegame (see Lessons 17 and 18).

The Middlegame is typically considered to be over when there are very few pieces on the board, or when Queens, and at least a few other pieces, have been traded.

Essential Question, Level II: Comprehension

What is meant by coordinating pieces for attack/defense?

Phase 3: The final stage of a chess game is the Endgame.



The Endgame: all games must come to an end.

If the Middlegame does not end with a checkmate attack, tactics and positional planning can be used in the Middlegame to win material (enemy pieces).

That material advantage can then be used to win in the Endgame, either by winning even more material, or by advancing and promoting a Pawn (see Lesson 14 for more information regarding passed Pawns).

With the Queens traded, it is usually not possible to start a mating attack in the Endgame. In our example (left), Black is winning by advancing one of his passed Pawns.

Both the h5 and b4-Pawns have clear paths to promote on the first rank. White cannot stop both, and will eventually lose.

Essential Question, Level III: Application

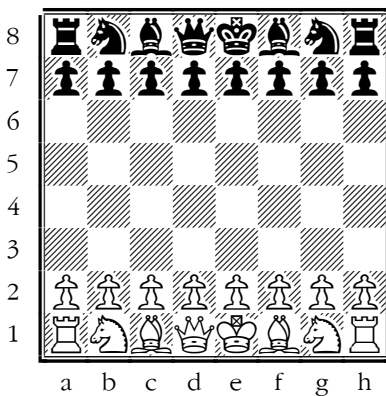
How would you apply what you have learned to develop a strong Middlegame that converts into a better or winning Endgame?

Part 2: Learning the Basics of Planning in Chess

Key Concepts

- The big three: checks, captures, and Queen attacks.
- What your thought process should be.
- The basics of developing a plan in chess.

Before making a move, a chess player should...



Before move 1, a player should be ready to think.

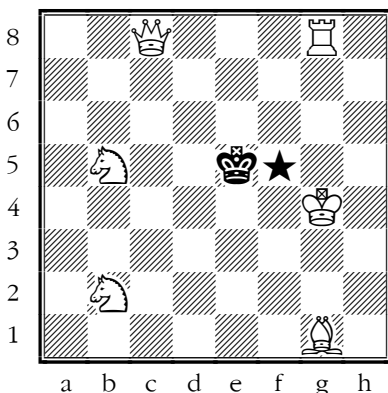
Through the first five lessons of this curriculum, you've learned how the pieces move, the primary goal, the basic checkmates, and hopefully attained the fundamental knowledge needed to play through the different stages of a game. Basically, you now know the most important technical facets of chess! We will now venture into some of the critical practical aspects of the game.

Chess is a game of cause and effect. Every move you make will have consequences. Learning *to think before you move* is extremely important. In Parts 2 and 3 of Lesson 6, we will prioritize what you should be thinking about your own plans and moves, as well as your opponent's.

Essential Question, Level 1: Knowledge

Can you list five things you learned about chess from the first five chapters of this curriculum?

Before making a move, your #1 priority is to look for *checks*.



*Do you see all the checks?
There are 11!*

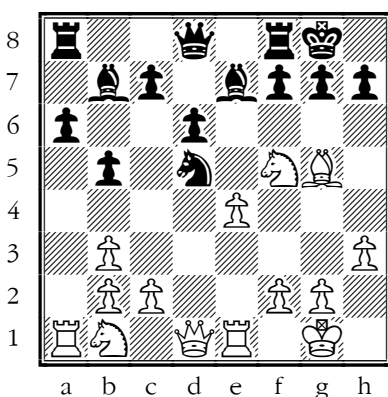
The most important moves to consider are those that attack the enemy King. Though not all checks are always good, a chess player must be aware of all the possible ways to give check, and that a player can be checked at any time. Sometimes, to miss a chance to check is to miss a chance to checkmate!

In our example position, there are 13 ways for White to check the black King; however, only one is checkmate. To see a check and move immediately, without considering all your options, would be foolish! Good things come to those who consider as many moves as they can, and formulate a plan.! 1.Qf5! is the only checkmate.

Essential Question, Level I: Knowledge

Can you list the other 12 checks available for White? Have you ever played too fast and given a bad check? If so, write a two-paragraph story about that game and what you learned.

Before making a move, your #2 priority is to look for *captures*.



*Black's last move was
Nxd5 was a big mistake.*

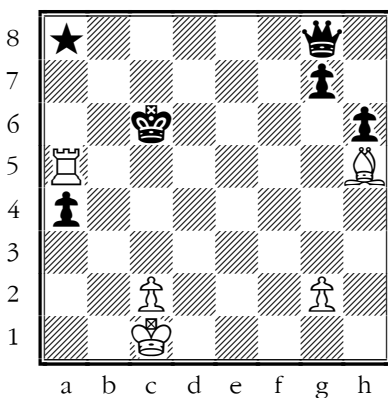
Considering every capture is just as important as considering every check. Outside of checkmate, the most concrete advantage a player can have is a material one. You learned in Lesson 5 to count attackers and defenders in every “doggy-pile.” As you improve, you will learn no capture should be dismissed.

This diagram is a perfect example of how necessary it is to consider every possible way to capture. Only the move 1.Qxd5! wins a piece in this position, despite appearing to lose the Queen for a Bishop. After: 1...Bxd5 2.Nxe7+ Kh8 3.Ng6+! h(or f)xc6 4.Bxd8 Rxd8 5.exd5 – White has won a piece.

Essential Question, Level II: Comprehension

Can you explain what is happening in this diagram, and why it is important to consider every capture, even if the capture seems to lose material in points?

Before making a move, your #3 priority is to look for *Queen attacks*.



2...Qxa4 was also not possible due to 3.Be8+! -- another winning skewer.

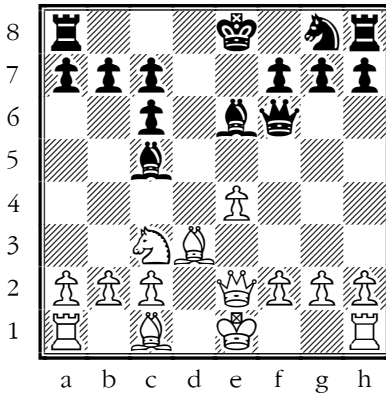
Checks and captures are the most important things to think about, for both you and your opponent, but because the Queen is the most powerful piece, considering all possible ways she can be attacked is also critical. Here White has two ways to attack the black Queen on g8.

Though both 1.Bf7 and 1.Ra8 seem equally bad at first sight, they should both be considered. Looking more closely, we suddenly see that Black can't capture the Rook on a8 due to 2.Bf3+, skewering (see Lesson 10 for more on "skewer") the King and Queen. After: 1...Qa2 2.Rxa4 again White attacks the Queen and forces 2...Qg8 3.Ra8 Qh7 4.Bg6! Qxg6 and 5.Ra6+, applying a deadly skewer that wins the game.

Essential Question, Level III: Application

If this position were Black to play, what move could you make to improve Black's chances and avoid White's idea?

Finding a plan (what to do?) if there are no checks, captures, or Queen attacks.



Both White and Black have useful "planning" moves to play.

Though checks, captures, and Queen attacks may be the most critical moves to be aware of, not every position will offer a good way to do so. Never fear! There are many other ways for chess players to improve their position, if indeed that is the case.

Here White and Black can both play useful "developing moves": Be3 or Bd2 bring the Bishop out, and 0-0 would give safety to the King. For Black, Ne7 and Rd8 would both develop pieces. Any time a useful check, capture, or Queen attack does not exist, look for ways to activate your pieces, control the center, or make a plan that threatens a good check, capture, or Queen attack.

Essential Question, Level III: Application

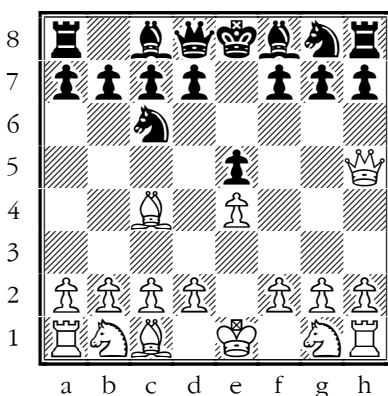
Based on what you have learned, can you explain why the checks, captures, and Queen attacks available for both sides in this position are NOT good moves?

Part 3: Why Did My Opponent Move There?

Key Concepts

- The big three: checks, captures and Queen attacks for your opponent.
- Recognizing and stopping your opponent's threats.
- Preventing your opponent's plan.

After your opponent makes a move: why did they play that move?



Why did White just play 3.Bc4?

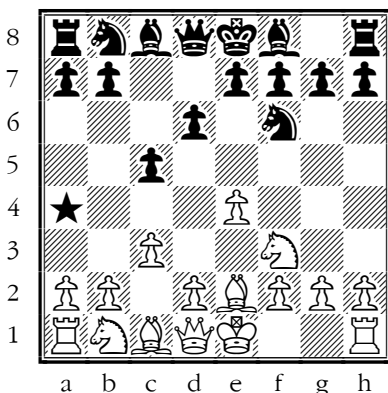
As we learned in Part 2, the most important and powerful moves in chess are checks, captures, and Queen attacks. So being aware of all our opponent's possible checks, captures, and Queen attacks makes sense.

The only reason any chess player ever loses a game is failure to ask and answer one crucial question: why did my opponent move there, and what is the threat? In all the diagrams of Lesson 6, Part 3, we have created small puzzles to be taken from Black's perspective. They are designed for beginning players to learn to stop their opponent's threats. In example 1, Black must stop 4.Qxf7. How? Answer: 3...g6 followed by 4...Nf6 is best.

Essential Question, Level III: Application

How would you apply what you've learned about the development of all your pieces to assess and stop White's threat?

Before making a move, look for your opponent's checks.



Can Black safely capture the “undefended” e4-Pawn? Look for checks.

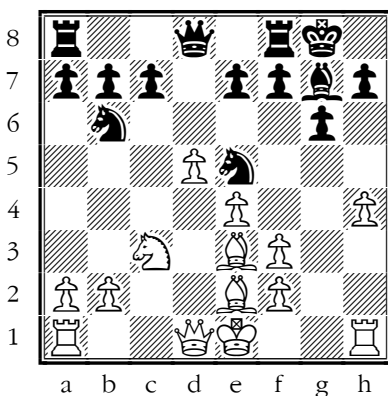
Thinking about what your opponents will do on their next move is essential. Starting with every check, capture, and Queen attack, you must consider every one of their possibilities. This position occurs after the moves 1.e4.c5 2.Nf3 d6 3.c3 Nf6 4.Be2 from the Sicilian Defense.

This common trick has caught many “Pawn-grabbing” players, who don't think about their opponent's next move. The move 4...Nxe4? drops a piece after 5.Qa4+, forking (see Lesson 9 for more information on “fork” and “double attack” tactics) the King on e8 and the Knight on e4. White will capture the helpless Knight on the next move.

Essential Question, Level III: Application

What moves would you suggest for Black that are safe and in accordance with what the plan should be in the Opening stage?

Before making a move, look for your opponent's captures.



10...Qd7 would complete development and connect the Rooks. Good move?

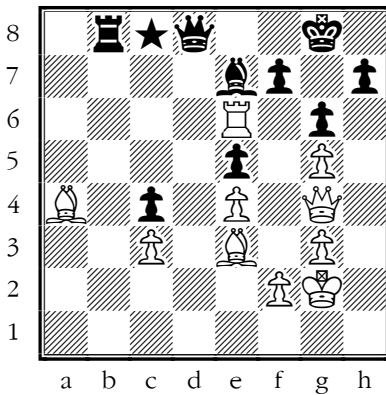
As the diagram caption says, the move 10... Qd7 for Black seems very logical. In fact, this is a commonly reached position from a popular opening. Many players have quickly moved 10... Qd7 in order to complete development, connect the Rooks, and prepare for the Middlegame.

We must consider *all* of our opponent's captures before making a move in chess. Even if a capture seems a little odd, taking the time to consider why our opponent might want to make that capture is critical. After 10... Qd7, White can play the surprising 2.Bxb6! followed by 3.f4—trapping the Knight on e5, winning a piece, and seizing a huge material advantage.

Essential Question, Level III: Application

Using what you already know about the need to complete development and connect the Rooks along the back rank, can you suggest another way for Black to play that doesn't trap the Knight on e5?

Before making a move, look for your opponent's Queen attacks.



1-0 Fischer-Shocron
Mar Del Plata 1959.

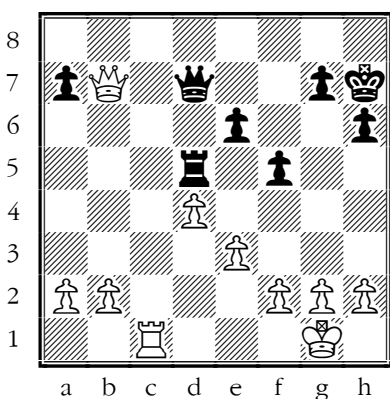
In this famous game by the former American world champion Bobby Fischer, Black played the move 39...Qc8, pinning (see Lesson 10 for information on "pin" tactics) the e6-Rook to the white unprotected Queen on g4, and seemingly winning back the Rook on e6 after it captured a black Knight. However, Shocron had overlooked the young Fischer's response move: a killer Queen attack!

White responded with 40.Bd7!!, "unpinning" the Rook and attacking the black Queen. After 40...Qxd7 41.Rxg6+, the Queen on g4 captures the undefended black Queen on d7. Black should have considered every Queen attack before going for this idea of pinning the Rook on e6.

Essential Question, Level III: Application

Using the knowledge you've gained so far regarding King safety, can you explain why Black didn't want to capture the Rook on e6, allowing White to take back with check by 40.Qxe6+?

Your opponents have no checks, captures, or Queen attacks: what is their plan?



What should you do if there are no good checks, captures, or Queen attacks for your opponent? There may be many ways to improve your position, but the best thing to think about in regards to your opponent's threats is what weaknesses you have and how your opponent might be trying to improve his or her position to attack you.

Before deciding whether or not to trade Queens and go into an Endgame ahead two Pawns, or to play 1.Rc7, White should try to establish what its biggest potential weakness is. Do you see it? 1.Rc7?? loses on the spot to 1...Rc5!!, a huge counterstrike that exposes White's weak back rank: If 2.Rxd7 Rc1#; if 2.dxc5 Qd1#; and if 2.Rxc5 Qxb7, winning the Queen and the game for Black!

Essential Question, Level III : Application

What questions would you ask yourself in this position before making a move for White?

Lesson 6 Summary and Linking Content to Standards

In this lesson, students learned a lot of strategies to increase their understanding of chess terminology and strategy. This lesson not only aligns with the Comprehension and Collaboration of the K-5 Common Core State Standards (CCSS) for English Language Arts: Speaking and Listening, but also applies Geometry, Counting concepts, and Addition and subtraction within numbers less than 20 (for 1st-2nd grades) in the puzzles and calculation of the game. These relate universally to the more advanced, critical-thinking chess concepts students will be faced with further on in this curriculum.

Students first learned the information provided on the stages of a chess game, and were then challenged to look for all critical moves of a game (checks, captures, and Queen attacks). Finally, students were asked to make the huge leap in higher order thinking by considering what their opponents might throw at them. Our Essential Questions challenged their comprehension of these themes for each diagram.

Further, students learned to plan their moves and prevent their opponent's plans in order to play winning chess games. This knowledge fits the above standards and the practical application of them, in that students are required to discuss their ideas and plans with their partner/opponent as they prepare for a critical challenge. This format can be used when students analyze a master game (or one of their own games) in the future. Per district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), this lesson fosters the ability of a student to take information provided and express ideas with others through collaboration. Elaborating on the information provided enables the student to demonstrate knowledge through constructed responses on paper through writing, illustrations, and technology, when appropriate.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Reading: Range of Reading and Level of Complexity: K

Phonics and Recognition: ELA-Literacy.RF.1.3 &2.3 (1-2)

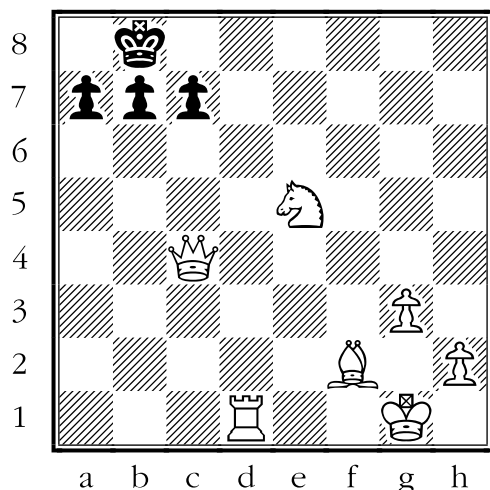
Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1&2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Develop range in reading	RL: K
Vocabulary development	L.2.4&2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 &2.3 (1-2)

Practice Pages

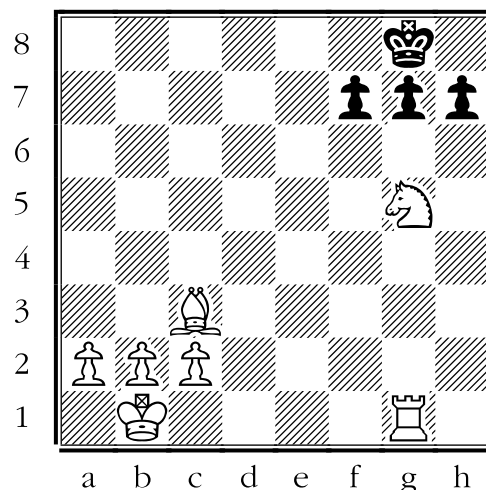
Practice Page 1: Checks and captures

White to play: can the Black King be placed in check? *Circle Yes or No.*
If "Yes," circle every piece that can attack the Black King, putting him in check.



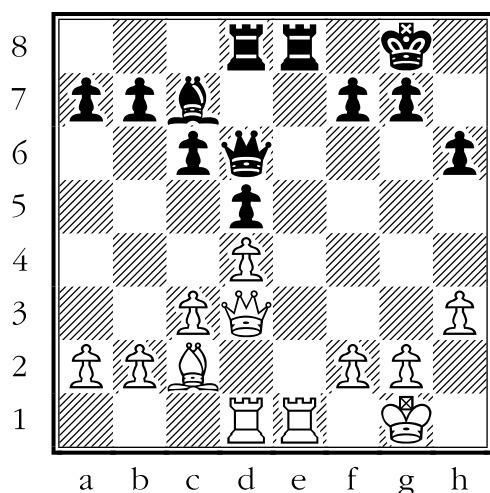
Circle the correct answer:

Yes Does White have a check? **No**



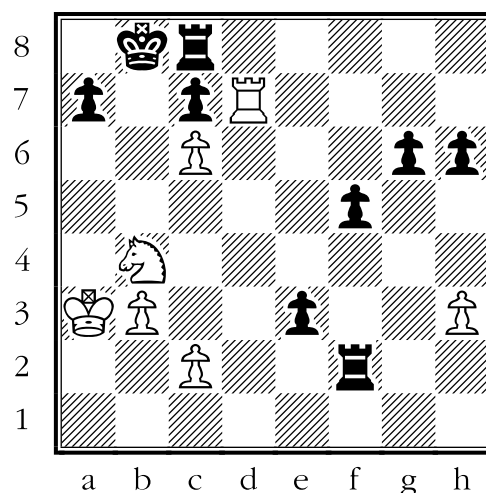
Circle the correct answer:

Yes Does White have a check? **No**



Circle the correct answer:

Yes Does White have a check? **No**



Circle the correct answer:

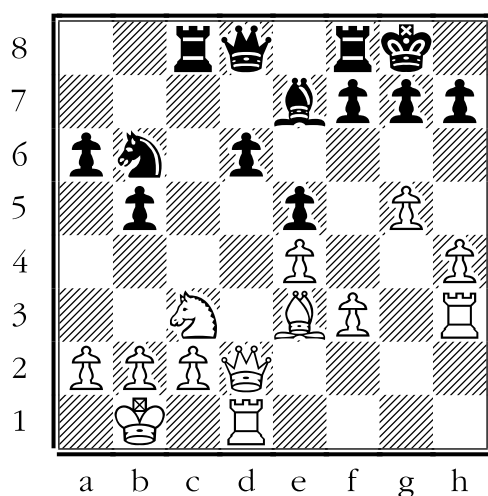
Yes Does White have a check? **No**

Practice Page 2: Checks and captures

White to play: can White capture any of Black's pieces? *Circle Yes or No.*

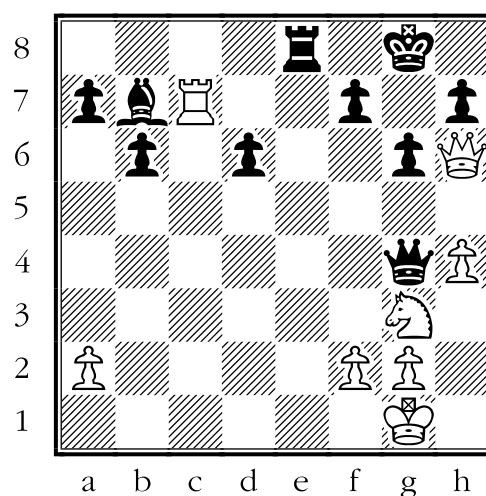
If "Yes," circle every piece that can be captured.

Circle the White piece that can make your favorite capture.



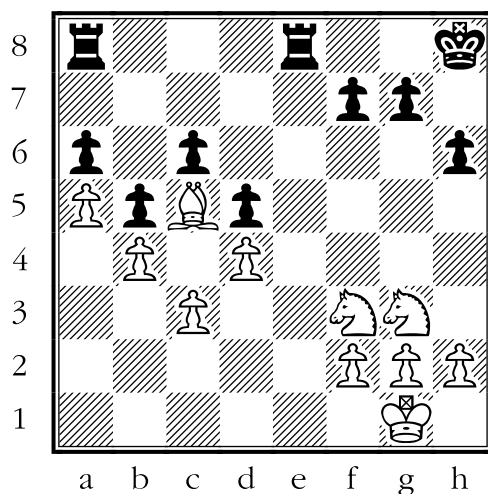
Circle the correct answer:

Yes Does White have a check? **No**



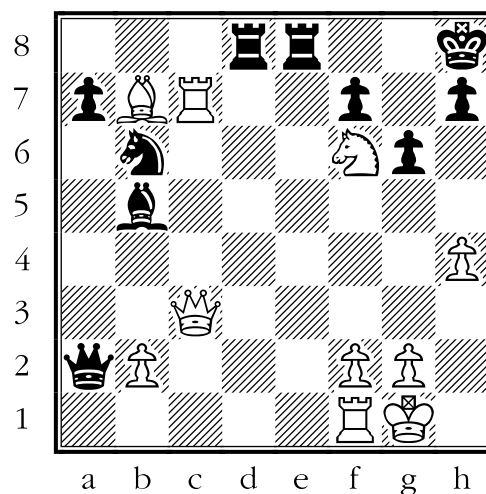
Circle the correct answer:

Yes Does White have a check? **No**



Circle the correct answer:

Yes Does White have a check? **No**

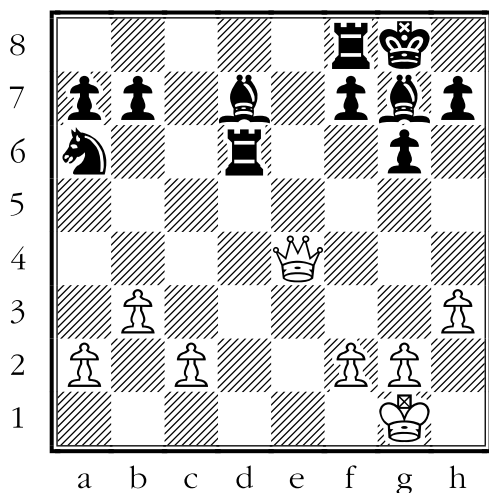


Circle the correct answer:

Yes Does White have a check? **No**

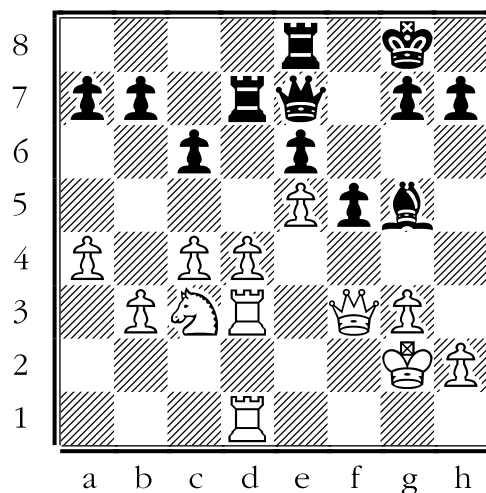
Practice Page 3: Attack the Queen

White to play: can Black attack White's Queen in one move in each of the following diagrams? *Circle Yes or No. If yes, circle every piece that can attack the white Queen.*



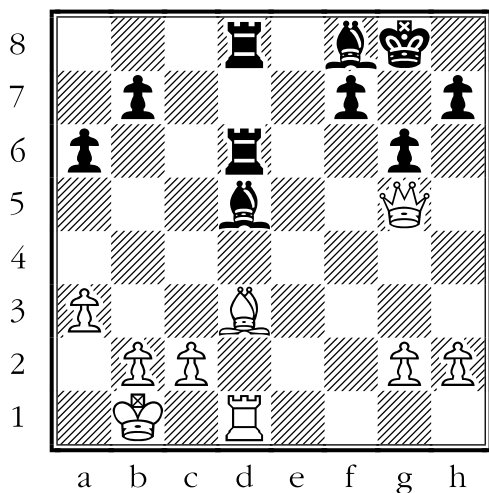
Circle the correct answer:

Yes Can Black attack White's Queen? **No** **Yes** Can Black attack White's Queen? **No**



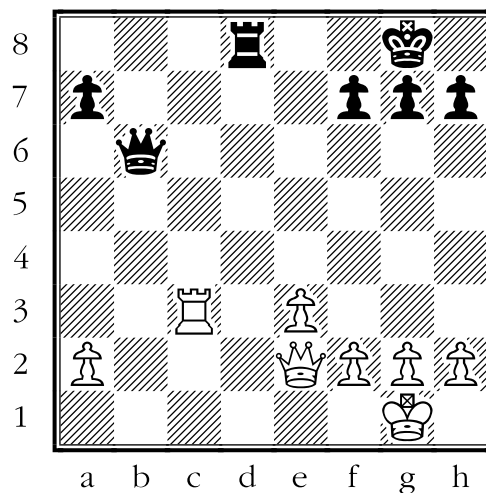
Circle the correct answer:

Yes Can Black attack White's Queen? **No** **Yes** Can Black attack White's Queen? **No**



Circle the correct answer:

Yes Can Black attack White's Queen? **No** **Yes** Can Black attack White's Queen? **No**



Circle the correct answer:

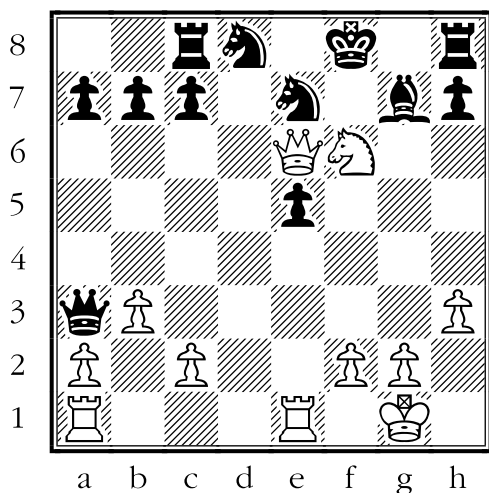
Yes Can Black attack White's Queen? **No** **Yes** Can Black attack White's Queen? **No**

Practice Page 4: Why did your opponent move there?

In the following diagrams, your opponent (Black) has just made a move.

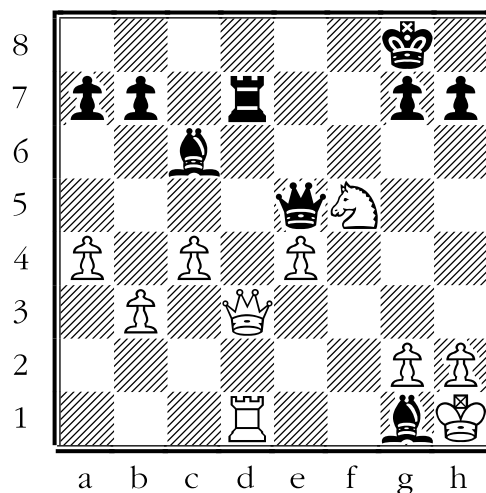
Why did he or she go there?

Is there is a check, capture, or Queen attack threatened? *Circle Yes or No.*



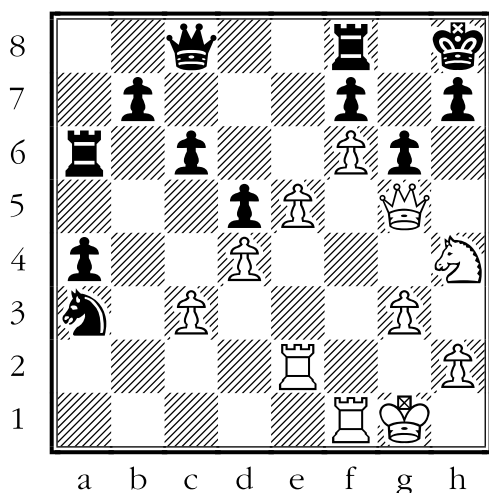
Circle the correct answer:

Yes Black played 1... Ncd8 -- why? **No**



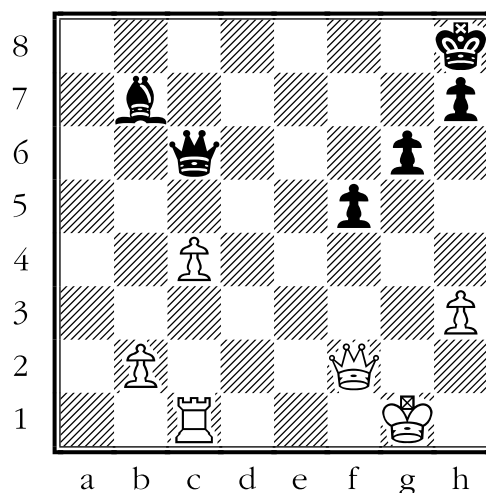
Circle the correct answer:

Yes Black played 1... Bg1 -- why? **No**



Circle the correct answer:

Yes Black played 1... Qc8 -- why? **No**



Circle the correct answer:

Yes Black played 1... Qc6 -- why? **No**

Answer Key

Practice Page 1: Checks

Diagram #1 Yes. Circled: Queen-c4, Rook-d1, Knight-e5 and Bishop-f2.

Diagram #2 Yes. Circled: Queen-d3 and Rook-e1.

Diagram #3 No.

Diagram #4 Yes. Circled: Knight-b4.

Practice Page 2: Captures

Diagram #1 Yes. Circled: Knight-b6, Pawns b5 and d6. Best: 1.Bxb6.

Diagram #2 No.

Diagram #3 Yes. Circled: Bishop-b7, Pawns f7, g6 and h7. Best: 1.Rxb7.

Diagram #4 Yes. Circled: Rook-e8, Pawns f7 and h7. Best: 1.Nxe8.

Practice Page 3: Queen Attacks

Diagram #1 Yes. Circled: Rooks d6 and f8, Bishop-d7, Knight-a6, Pawn-f7.

Diagram #2 Yes. Circled: Bishop-f8, Pawns-h7 and f7.

Diagram #3 No.

Diagram #4 Yes. Circled: Queen-b6 and Rook d8.

Practice Page 4: "Why did my opponent move there?"

Diagram #1 Yes.

Diagram #2 No.

Diagram #3 Yes.

Diagram #4 Yes.



Classroom Activities

Activity 1: Developing for points

Activity goal:	Understand the Opening and early Middlegame better, and reinforce the ideas of the first and second stages of a chess game. Reward and provide encouragement for the basic task of developing all pieces. (Part 1)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1&2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up boards and sets and pair off students against each other.
- Review the importance of developing all your pieces, getting the King safe and connecting the Rooks from the material taught in Lesson 5.
- Every time a piece is developed off the back rank, a student earns one point.
- Every time a student moves a piece and aims it at the center, showing which center squares it is controlling, she or he earns two points.
- Castling is worth three points.
- Showing that the Rooks are connected is worth two points.
- Bonus five points if all pieces are off back rank, player is castled, and Rooks are connected before move 15. Bonus 10 points if all of the above is done before move 10.

Multiple points can be awarded for one move (e.g., developing the Knight on g1 to f3 earns three points, one for developing off the back rank, one for attack/pointing towards the center.

Award a prize (small toy, treat, free time, or other classroom motivation) to the student who earns the most points. Or, all students who reach X amount of points get a prize, etc. Teacher/coach can vary prizes and giveaways based on class size, retention, and age.

Activity 2: Developing against the clock

Activity goal: Increase understanding of the Opening and early Middlegame. Reinforce ideas of the first and second stages of a chess game. Provide students with a sense of “urgency” in the development and use of their army. Showing them that, in a real tournament setting, development is not optional and not something you take your time with. (Part 1)

Geometry: CCSS: Math. Content. G.A.1 (K-5)

Counting: CCSS.Math.Content. CC.A.1&2 (K-1)

Addition and subtraction within 20: CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up boards and sets and pair off students against each other.
- Coach sets a chess clock (or use a wall clock or cell phone timer) for five minutes.
- Coach tells students that if any Knights or Bishops have not been developed toward the center, or if any Kings and Rooks have not been castled or moved at least once before the timer runs out, the coach gets to “take these pieces for my collection, because you aren’t using them anyway.”
- Once the timer runs out, coach walks by the boards to see if any pieces are not in play. If there are unused pieces, coach takes them off the board and places them into a bucket or bag where “unused pieces go.”

Activity 3: Inviting all your pieces to the party

Activity goal:	Understanding and reinforcing the need to use all your pieces in the Middlegame stage of a chess game. Increasing students' knowledge and awareness of the entire board, where they are placing their pieces, and whether they are using all of their pieces. Students learn to use their entire army towards a common goal (i.e., control the center, work together to attack a target, etc.). (Part 1)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Counting:	CCSS.Math.Content. CC.A.1&2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Using a demo chess board or projector screen, set up random positions where most of the pieces for each side are “in play” and in the middle of the board.
- Leaving one piece for each side clearly undeveloped, or “on the edge” and out of play, ask all the students if they can recognize which piece has not been “invited to the party” (the “party” can be in the center, against a weak King, etc.).
- Ask the students if they wish to invite this piece to the party.
- When they vote yes, ask the students to suggest, as a group, the best ways to get the piece into the game and join the party.
- Have the students vote on the best suggestion amongst themselves, being sure they follow through with their plans, and giving advice where and when needed.

Activity 4: Race to check, capture, and/or Queen attack

Activity goal: Reinforcing the most powerful moves in chess to increase student awareness of the critical moments in a chess game. As the students make progress in this activity, you should observe them not only striving for their own checks, captures, and Queen attacks, but also preventing their opponents from doing the same! Ultimately, this is a good measure of a student's focus and natural recognition that a game of chess is about more than just his or her own plans and ideas, but the opponent's as well. (Part 2 and Part 3)

Geometry: CCSS: Math. Content. G.A.1 (K-5)

Counting: CCSS.Math.Content. CC.A.1&2 (K-1)

Addition and subtraction within 20: CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up boards and sets and pair off students against each other.
- Tell the students that instead of playing a regular game of chess, we are playing a race to achieve a certain goal.
- Decide which race the students will play that round, and announce the game: first player to make three checks, first player to make five captures, or first player to make three Queen attacks.
- First player to do the assigned task wins the race and the game.
- Encourage making better checks, captures, and Queen attacks and increase the difficulty of the game by saying the player must not only win the race, but the player receives no prize unless he or she also wins the chess game.

Activity 5: Conversational chess

Activity goal:	To increase student awareness, not only trying to guess reasons for each of the opponent's moves after the fact, but eventually anticipate what the opponent is trying to achieve in any given position. (Part 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Counting:	CCSS.Math.Content. CC.A.1&2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up boards and sets and pair off students against each other.
- Assist in the Opening stages to ensure that all students, even beginners, develop pieces and reach a formidable Middlegame position, to make this exercise more valuable and realistic.
- At a certain point (move 10 or 15), tell the students they are now to have a conversation with their opponent on every move.
- Once a move is made by White, the player playing Black is to “guess why” Black made that move. For example, students discuss their opponent's moves, such as “You moved there to attack my Queen!” or “You moved there to control the center,” etc.
- On moves made by Black, White is to do the same thing.
- The opponent can then say “Yes, that’s why I moved there,” or “No, I moved there for a different reason,” and explain the reason she or he moved there.

Activity 6: Guess the move*

Activity goal:

To increase students' ability not only trying to guess reasons for each of the opponent's moves after the fact, but eventually anticipate what the opponent is trying to achieve in any given position. Can be reused as students improve, as it is an effective exercise for players at all levels of chess experience. Challenge the students to actively consider their opponent's plans and threats on every move.
(Part 3)

Geometry:

CCSS: Math. Content. G.A.1 (K-5)

***Advanced. For students capable of notating a chess game.**

Instructions

- Set up boards and sets and pair off students against each other.
- Provide score sheets (notation) for each player.
- Provide an extra score sheet (or blank piece of paper) for each player.
- In addition to playing a game (touch move recommended) and writing down their own moves, before all players make their moves, have them write down the move they think their opponent is going to play in response. It is important that they do this before making and notating their own move.

LESSON 7

Lesson 7: The “Quick” and Other Basic Checkmates



Overview

Lesson 7 of our curriculum introduces the quickest and some of the most common checkmates that occur in chess. It highlights the fastest two-, three-, and four-move checkmates possible, while emphasizing the limitations that trying to checkmate your opponent this quickly can have on your piece development and strategy for the rest of the game, should your plans at a quick mate prove unsuccessful. Lesson 7 also highlights the most basic checkmating patterns and how they can be used in different positions with different pieces.

Part 1 emphasizes that these quick checkmating plans are not perfect, because trying for a quick checkmate can seriously hinder the skills learned in Lessons 5, 6, and those to come in Lesson 8. The important opening strategies, such as piece development and castling, should be valued ahead of a quick, easy win against better players. Part 2 delves into some of the fundamental checkmating patterns that every developing student must master. These checkmating patterns will prove invaluable to students as they continue to learn how to use their pieces together in harmony to attack their opponent's King and win games.

The Practice Pages and Classroom Activities are essential to mastering checkmating sequences and patterns, because practice builds the foundation and necessary memorization of these concepts. Students' ability to demonstrate knowledge and understanding is the foundation for not only all of the Common Core State Standards (K-5) implementation, but specifically targets CCSS: Math. Content. G.A.1 (K-5), G.A.2 (K-3) (see Appendix) for Geometry and pattern recognition. Students' basic understanding of the game is developing into deeper patterns and concepts, including knowledge of how to complete an entire game effectively. These checkmates vary in terms of their length and difficulty, and provide an excellent foundation to future crucial checkmating patterns that will aid in each student's pattern-recognition growth.

Teacher's Guide

Learning the Quick Mates (Part 1) can be one of the most fun and crucial lessons for a beginning chess player. These fast wins provide, for many beginners, the first examples of a complete chess game. However impractical that game may be, a coach should use this opportunity to help students understand that winning material and capturing all of their opponent's pieces is not always necessary to achieve checkmate.

The goal of chess is not the same goal as checkers! Remind students the importance of defending their weakest squares (f7 or f2). This principle is essential for every chess player's growth.

The three basic checkmate patterns we chose for Part 2 were selected because of their practical value. Back Rank combinations, Smothered Checkmates, and the other basic Support mating patterns occur with the most frequency in tournament play. However, we recommend placing just as much emphasis on memorizing the other checkmate patterns, included in the “Famous Checkmates” Practice Pages.

Practical Notes and Advice—Lesson 7

- Use the “Guarding f2 and f7” Practice Page to remind students that while knowing the Quick Mates is important, it is not always wise to try for a checkmate so early in the game. Doing so is an inefficient use of time, and will likely lead to the risk of the Queen being attacked by the minor pieces.
- Though not every position included in the “Famous Checkmates” Practice Pages will occur on a regular basis during practical play, all of them display an important checkmate pattern that should be memorized. To help these ideas become concrete in every student's mind, we recommend:
 1. When instructing large groups, set up the positions in the “Famous Checkmates” Practice Pages on a demo board for group discussion before asking the students to solve them on their own.
 2. Have student solve tactics (where the Famous Checkmate patterns are likely to occur often) using ChessKid.com's Puzzles.
 3. Associate each checkmate pattern's original name with the diagram, as this will further cement the idea via name recognition. Further, by making the positions personal, a coach will increase each child's mental imprint of the checkmate pattern.

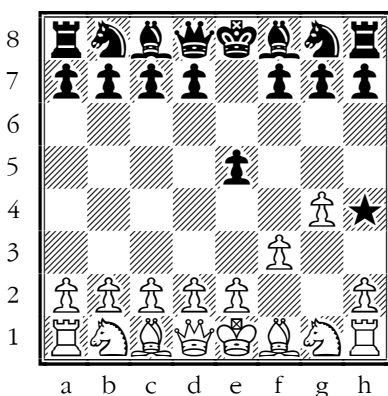
Lesson 7

Part 1: Quick Mates in Four Moves or Less

Key Concepts

- The Fool's Mate (a.k.a. the "Two-Move Mate").
- The Fidgety King and the Knight's Dream (a.k.a. the "Three-Move Mates").
- The Scholar's Mate and the other Four-Move Checkmate.
- The Weakest Squares on a chessboard: f7 and f2!

The Fastest way to lose a chess game: the Fool's Mate.



*The "Fool's Mate:"
Black plays 2...Qh4#*

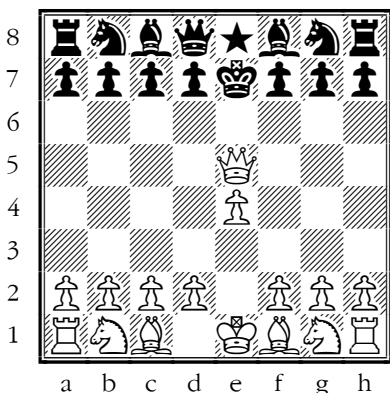
For any of the quick mates in this lesson to work, several fundamental principles of the Opening (Lessons 6 and 8) must be broken. You can see this clearly with the first and quickest checkmate on our list: The Fool's Mate. Only White can lose so quickly, and only by playing horrific starting moves!

Shown in this diagram, White started by moving either the f-Pawn (1.f3 or 1.f4) or g-Pawn (1.g4). Black then opened the Queen's diagonal (d8-h4) with either 1...e6 or 1...e5. White then followed with a second blunder (assuming 1.f3? was played, White then follows with 2.g4??) and Black delivers checkmate on h4.

Essential Question, Level IV: Analysis

Knowing what you know about the best ways to start a chess game, how can you justify how White should have avoided this checkmate in two moves?

The first checkmate in three moves: the Fidgety King.



1. e4 e5 2. Qh5 and
2...Ke8-e7?? 3. Qxh5#.

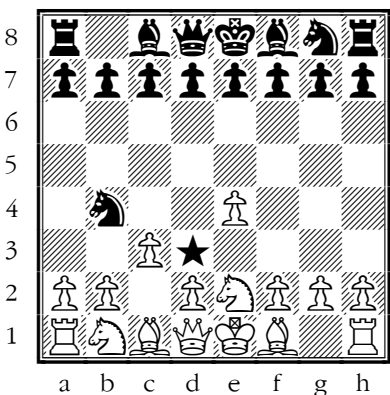
As we learned from the Fool's Mate, your opponent must cooperate in order for checkmate to be achieved this early in a game (any checkmate within four moves needs help). Because your opponent needs to assist you in some way, these quick mates might also be known as "help mates."

The "Fidgety King," a checkmate in three moves, is no exception. Your opponent's King must be jumpy, or at least have a "crazy itch," in order to leave the e8-square voluntarily, walking directly into checkmate on e7. The moves used to reach the position are beneath the diagram.

Essential Question, Level IV: Analysis

What conclusions can you draw about Black's play from this position and his early defeat?

The second checkmate in three moves: the Knight's Dream.



1. e4 Nc6 2. Ne2 Nb4
3. c3?? Nd3.

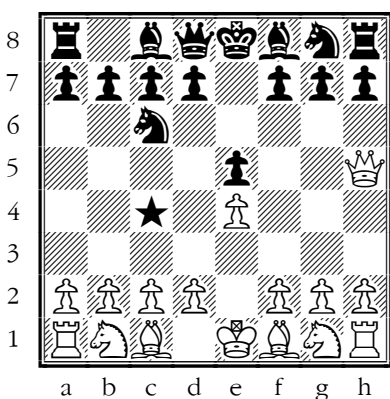
The second checkmate in three moves is slightly more logical in terms of development and Opening principles, though not by much. White does at least start with a great move, 1.e4; however, when White meets 1...Nc6 with the terrible 2.Ne2?!, he blocks his own King, Queen, and Bishop. With this kind of neglectful development, disaster is bound to strike!

Black can then follow up with 2...Nb4 (2...Ne5 can also reach the d3-square in three moves, though it doesn't "tempt" White into the horrific blunder on move three like 2...Nb4 does), and when White can't help but attack the b4-Knight with the terrible move 3.c3?!, Black delivers mate with 3...Nd3#.

Essential Questions, Level IV: Analysis

Using the knowledge you've gained about the Opening stage, can you identify White's first mistake in this game?

The Scholar's Mate, step 1: White develops the Queen early for tricks.



When White develops 2.Qh5, the natural 2...Nc6 defends the e5-Pawn.

The weakest squares in chess are f7 and f2, as these squares are defended by the Kings alone to start every chess game (which should serve as another good reminder of the importance of castling, as we learned in Lesson 5). The plan 1.e4 e5 2.Qh5 targets the f7-square, but also attacks the e5-Pawn.

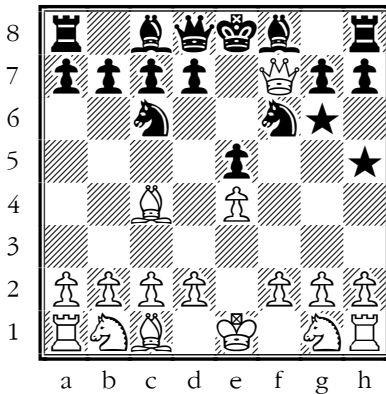
Unlike any of the previous three “quick mates,” the Scholar's Mate cannot totally be classified as a “help mate.” If Black is to develop 2...Nf6, for example, White would then play 3.Qxe5+, checking and winning a Pawn.

Black's best move, 2...Nc6, defends the e5-Pawn, but leaves the door open for the trap key to the Scholar's Mate idea. Once White develops the f1-Bishop to the c4-square, Black must not focus solely on the development of his King side or on attacking White's Queen. Black must remember the weakness on f7.

Essential Questions, Level V: Synthesis

Can you think of an original way to explain to a beginning chess player, in two paragraphs or less, why Black needs to defend the e5-Pawn with 2...Nc6 before attacking the White Queen with 2...Nf6?

The Scholar's Mate, step 2: Black falls into White's trap. Checkmate on f7!



After 3.Bc4, it is easy for Black to blunder 3...Nf6, attacking the Queen.

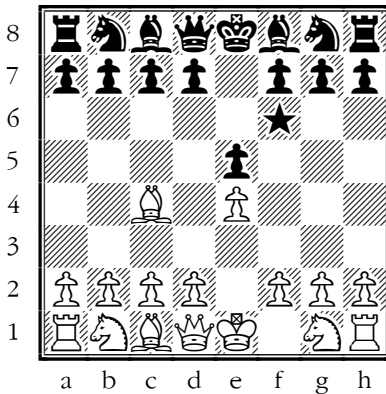
After the natural, yet terrible blunder, 3...Nf6??, White uses the h5-e8 diagonal to “slip around” the f6-Knight and capture the f7-Pawn, delivering checkmate and leaving the Black King stunned as to why his army did not come to his defense! Notice White's Queen is defended by the Bishop on c4.

Black did indeed have multiple ways to defend this tricky threat of checkmate. 3...Qe7, 3...Qf6, 3...Nh6, and the best move, 3...g6. 3...g6 chases the White Queen from h5, and after 4..Nf6 and 5...Bg7, Black has completed development and is ready to castle Kingside, bringing safety to the King and completing Kingside development.

Essential Question, Level V: Synthesis

Can you modify the position in the diagram and explain which two pieces of Black's would be needed for a similar attack against White's f2-square?

The “Helpers” Four-Move checkmate, step 1: develop and hope for help.



The natural 2...Nf6 would both attack the e4-Pawn and prevent checkmate and it is Black's best move.

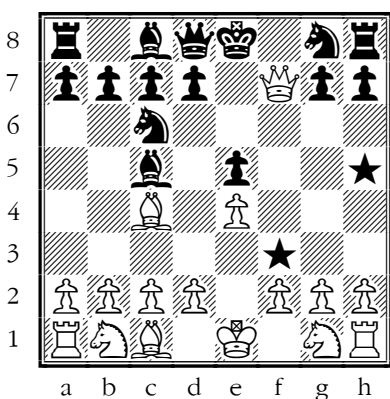
There is another common way beginners will try for a “quick mate,” similar to the Scholar’s Mate we just learned. The Bishop’s Opening—defined as 1.e4 e5 2.Bc4—is not a bad approach for White, as it does develop a piece and attack the weakest square. However, should it be met by 2...Nf6, attacking the e4-Pawn and closing off access to his weak f7-square.

After 2...Nf6, White would likely defend the e4-Pawn with either 3.d3 or 3.Nc3. Both players would then focus on completing their development as they prepare to castle their Kings and battle in the Middlegame. However, if Black is in a “helpful” mood, he might choose a less aggressive path, and allow White to increase the pressure on f7.

Essential Question, Level VI: Evaluation

Using what you’ve learned about the Opening stage, how would you evaluate this position if you faced it in one of your games, and what would be the goals for both players at this current stage?

The “Helper’s” Four-Move checkmate, step 2: help is on the way.



Black would need to blunder on move 3, allowing 4.Qxf7#.

To learn our second version of the Four-Move checkmate, let's assume that Black instead chooses a second move such as 2...Nc6. White could then continue with 3.Qf3 (3.Qh5 is similar to Scholar's Mate). Both moves threaten to capture f7, and when another "neglectful" developing move such as 3...Bc5?? is made, White can end the game with 4.Qxf7#.

This second four-move checkmate is referred to as the "helper's" mate because Black's moves were dubious and helped White's plan to attack f7. Black ignored defense of the weakest square. If Black had chosen more logical moves (either 2...Nf6, or a move to defend f7, on move 3) there would have been no checkmate in four moves.

Essential Question, Level V: Synthesis

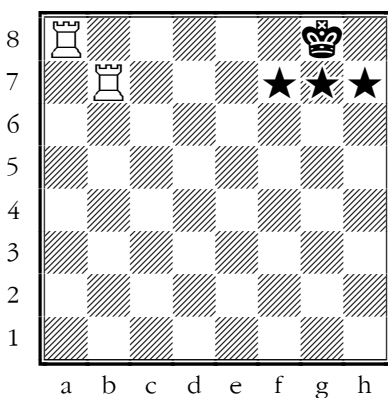
How would you reconstruct the concept of the “Helper’s Mate” for Black to checkmate White on f2 early in the game?

Part 2: Other Basic Checkmate Ideas and Patterns

Key Concepts

- The Back Rank checkmate.
- The Smothered checkmate.
- Simple “Support Mates” and basic checkmate strategy.

Back Rank checkmate, example 1: the “Rook roller” pattern.



Black's King is trapped against the back rank.

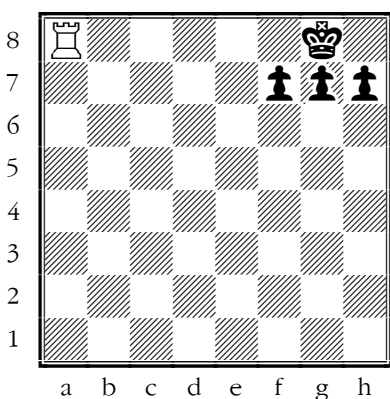
Now that we have learned the quick mates and the most basic checkmates that can occur in the Opening stage of a game (Part 1), here we take a look at several fundamental checkmate ideas and patterns that every beginning chess player should know, though they occur far from the beginning stage.

The “Back Rank Mate” is simply defined as a checkmate where the enemy King is trapped against his own back rank. Here we see an example familiar to us, as we learned this pattern in Part 2 of Lesson 4.

Essential Question, Level IV: Analysis

Can you assess the value or importance of knowing this mate, especially if one is a beginner in chess?

Back Rank checkmate, example 2: the King is trapped by his own army.



Black's King is trapped against the back rank... by his own Pawns!

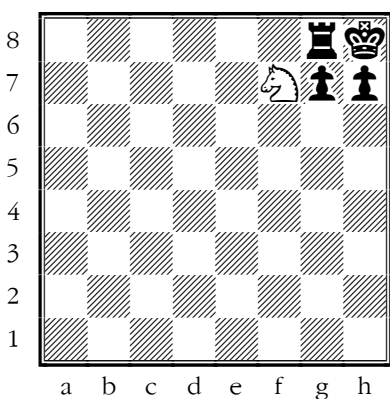
Perhaps the most common version of a Back Rank Mate is when the enemy King finds himself trapped along the back row (on either the first or eighth rank) by his own Pawns. Notice that Black's Pawns “replace” all the squares the White Rook on b7 guarded in example 1.

To avoid this catastrophe, in some cases a player may move one of the Pawns in front of the King forward ahead of time. Imagine the Black h-Pawn on h6 rather than h7, thus providing the h7 square as an escape route for the otherwise trapped King. This is a common defensive idea, preventing a Back Rank Mate tactic from taking place, and should be remembered by all beginners.

Essential Question, Level V: Synthesis

Can you construct a diagram or position using a chess board that would change this position so that there is no Back Rank Mate?

The Smothered Checkmate: the King created his own prison.



White has just delivered the final blow: 1.Nf7 mate.

Here we have a “Smothered Checkmate.” This checkmate is called *smothered* because the King is squeezed in by its own pieces and cannot breathe.

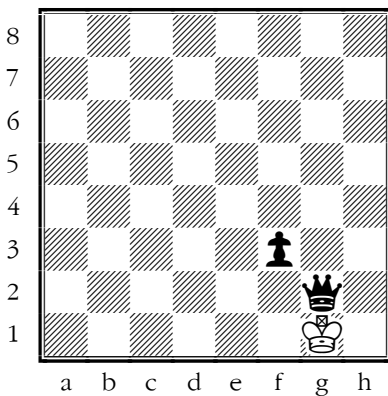
There are many beautiful combinations that climax in a smothered checkmate position, such as you see here. The notorious “Venus Fly Trap” named after the deadly flower, can be seen in action in both ChessKid.com videos and articles.

Only a Knight can deliver a Smothered Mate, as by definition, the King must be directly surrounded by his own pieces, and only the Knight can deliver a check without directly facing the King on an open diagonal or file.

Essential Question, Level V: Synthesis

Can you construct your own smothered mate for Black, starting with an empty board? For extra credit, can you use the Web (and ChessKid.com) to find an article or video on the Venus Fly Trap or a different Smothered Mate?

A Support Checkmate, example 1.



The Black Queen is defended by the f3-Pawn.

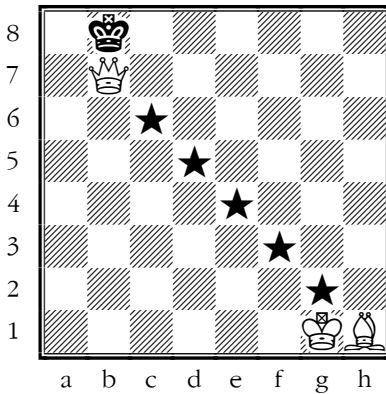
One final basic mating pattern all beginning chess players should know is a Support Mate. Unlike the Back Rank or Smothered Mate, a Support Mate requires the help of another piece. This teammate provides protection for the Queen as she delivers the final blow. You already learned and mastered one example of a Support Mate pattern when you learned the King and Queen Mate in Lesson 3.

Here we see a common example for the Support Mate. The Black Queen on g2, checkmating the White King on g1, is protected by the Pawn on f3. This pattern can occur on any edge of the board: The first and eighth ranks, or the a- and h-files. Imagine replacing that Pawn on f3 with a Black King, and you have a position similar to the mating technique you learned in Lesson 3, Part 1.

Essential Question, Level VI: Evaluation

Other than the Pawn and the King, is there another piece that could be placed on f3 that would protect the Queen? Can you imagine placing other pieces on the board to protect the Queen on g2?

A Support Checkmate, example 2.



Despite being far away, the h1-Bishop protects the checkmating Queen.

A Support Mate occurs when the Queen gives checkmate and is protected by either a Pawn or a piece. However, *the protecting piece is not required to be right next to the Queen*. Some pieces can protect from far away! In many cases, the Queen is guarded by a Knight, Bishop, or Rook.

With White's last move being 1.Qb7 checkmate, we see the trapped Black King with no safe squares. Black cannot capture the enemy First Lady because of the h1-Bishop's long-range protection. Like the "King and Queen versus King" checkmate in Lesson 3, Part 1, the lone Queen can chase and corner an enemy King, but she needs help to finish the job.

Essential Question, Level VI: Evaluation

Based on what you've learned, how would you explain a Support Mate to someone new to chess?

Lesson 7 Summary and Linking Content to Standards

In this lesson, students learned several examples of quick checkmates, and some of the most basic, critical checkmating patterns that can be used with a variety of different pieces in different positions. This lesson aligns with Research to Build and Present Knowledge Comprehension and Collaboration of the K-5 Common Core State Standards (CCSS) for English Language Arts: Speaking and Listening, but also applies Geometry, Counting concepts, Number names and count sequence (1st-2nd), and Addition and subtraction within numbers less than 20 (for first and second grades), by emphasizing patterns and teaching students how to finish a chess game with varying checkmates. These advanced chess concepts provide students with skills necessary to advancing in the curriculum and in their tournament games.

Students first learned examples of the quickest checkmates that are possible in a chess game, and then were challenged to understand the limitations of attempting to checkmate your opponent in these fast strategies. Next, students learned several of the most critical checkmating patterns, including the Back Rank checkmate, Smothered Mate, and a Support Checkmate. Learning these checkmate patterns will allow future mastery of more complex tactical and checkmate patterns (starting in Lesson 9), and will also provide key instruction on piece coordination and successful endgames.

Additionally, students are now able to use pieces cohesively and to think ahead, a critical skill required in the Partnership for Assessment of Readiness for College and Careers (PARCC). CCSS Math Content is addressed by requiring the student to express grade/course level-appropriate mathematical reasoning by constructing arguments that are valid, critiquing the reasoning of others in a collaborative setting, and/or attending to precision when making mathematical statements. Another PARCC expectation is the CCSS ELA.-Literacy.SL. (Speaking and Listening) component, where students apply the skills of expressing ideas, collaborating with peers cooperatively, effectively elaborating on their thoughts and understanding, and building on one another's ideas to increase understanding of a topic.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

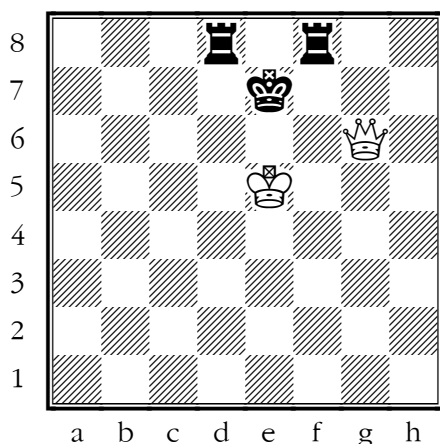
Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Practice Pages

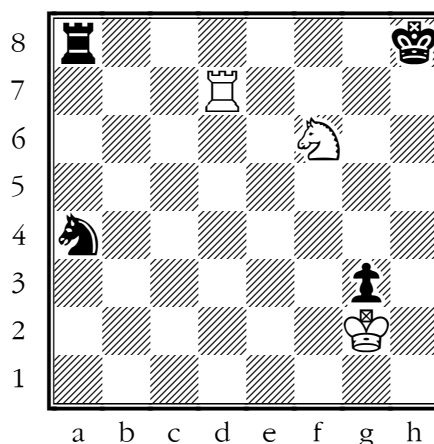
Practice 1: Famous checkmates

The following diagrams are checkmate in either one or two moves.
These famous patterns should be memorized by all beginning chess players.



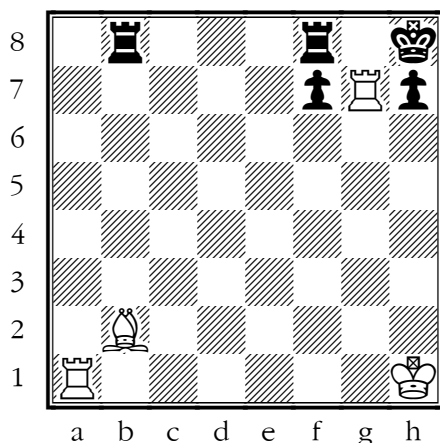
The "Swallow's Tail" Mate:

White to play, checkmate in one move



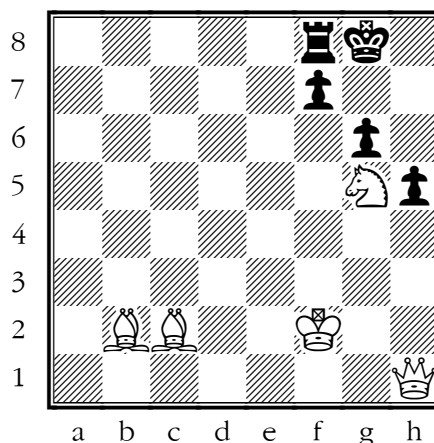
The "Arabian" Mate:

White to play, checkmate in one move



Pillsbury's Mate:

White to play, checkmate in two moves

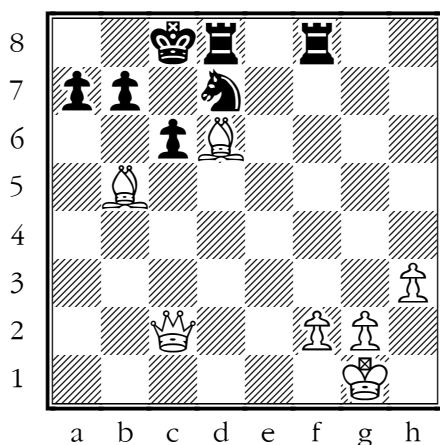


Blackburne's Mate:

White to play, checkmate in two moves

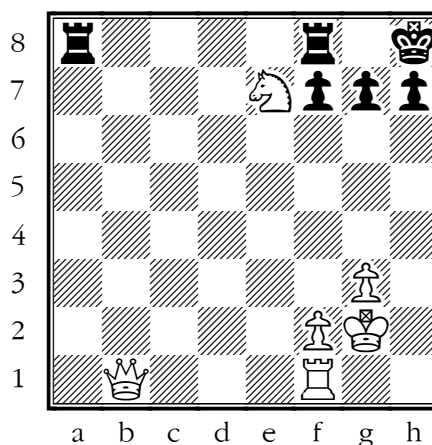
Practice 1: Famous checkmates

The following diagrams are checkmate in either one or two moves.
 These “famous” patterns should be memorized by all beginning chess players.
 (Further descriptions with answer key.)



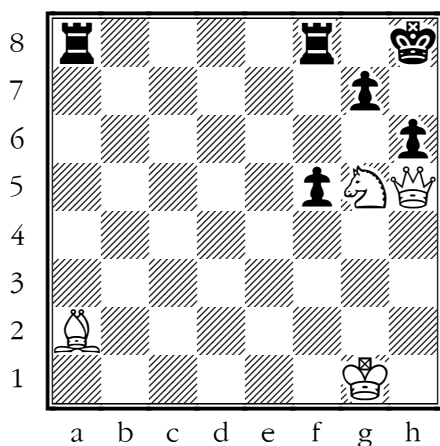
Boden's (or “Criss-Cross”) Mate:

White to play, checkmate in two moves



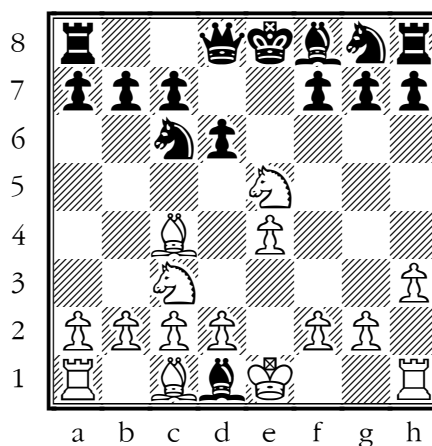
Anastasia's Mate:

White to play, checkmate in two moves



Greco's Mate:

White to play, checkmate in two moves



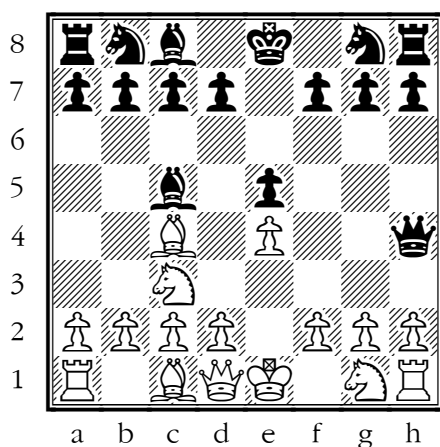
Legal's Mate:

White to play, checkmate in two moves

Practice 2: Guarding f2 and f7

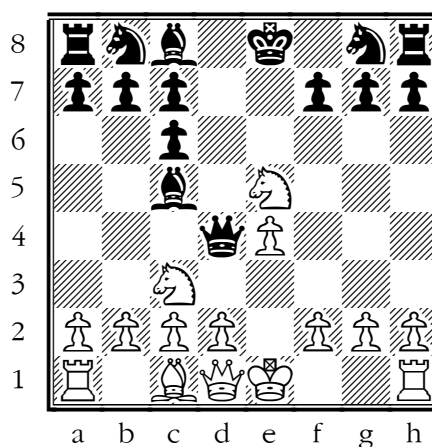
In the following diagrams, there is a threat of either checkmate or the win of material on the f2 or f7 square. Find the best way to guard the weakest squares against threats.

Circle your favorite piece that can protect, and for bonus points, write your move below each diagram.



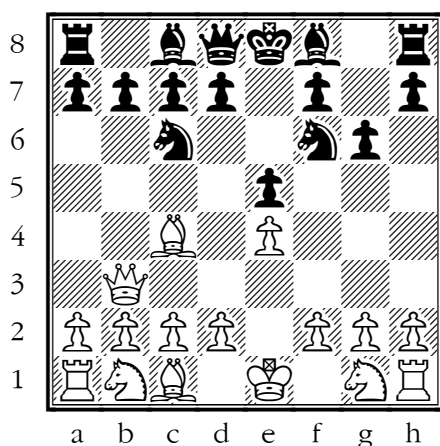
How can White protect f2?

White to play ____.



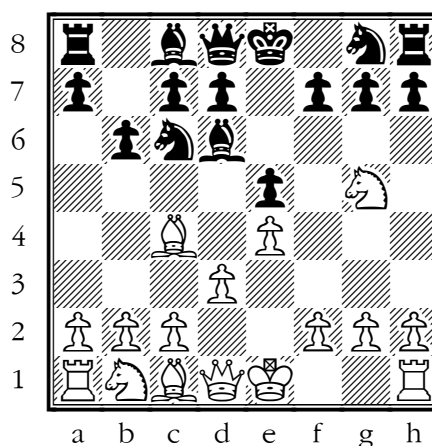
How can White protect f2?

White to play ____.



How can Black protect f7?

White to play ____.



How can Black protect f7?

White to play ____.

Answer Key

Practice Page 1: Famous checkmates

Diagram #1 1.Qe6#

Diagram #2 1.Rg8!! Kxg8 2.Rg1#

Diagram #3 1.Rh7#

Diagram #4 1.Qxh5 gxh5 (1...f8-R anywhere, Qh8# and 1...f6 or 1...f5 2.Qh7#) 2.Bh7#

Practice Page 2: Famous checkmates

Diagram #1 1.Qxc6+! bxc6 2.Ba6#

Diagram #2 1.Qg6! hxg5 (any other move 2.Qh7#) 2.Qh5#

Diagram #3 1.Qxh7+! Kxh7 2.Rh1#

Diagram #4 1.Bxf7+! Ke7 2.Nd5#

Practice Page 3: Guarding f2 and f7

Diagram #1 1.Qe2, 1.Qf3, 1.d4 and 1.Nh3 are correct.
1.Qe2 is best followed by developing the g1-Knight to f3.

Diagram #2 1...Qe7, 1...d5 and 1...Nd5 are correct.
1...Qe7 is best, as both of the other options lose material for Black.

Diagram #3 1.Qe2, 1.Qf3, 1.0-0, 1.Ng4 and 1.Nd3 are correct.
1.Nd3 is best as it is the only move that guards f2 and protects the e5-Knight.

Diagram #4 1...Nh6, 1...Qe7 and 1...Qf6 are correct. 1...Nh6 is best.

Classroom Activities

Activity 1: the Scholar's Mate Tango

Activity goal:	Practicing the main variations of the four-move checkmate, recognition of the weakest squares f2 and f7, learning key defensive strategies to avoid "quick" checkmates, and recognition of the flaws of a failed four-move attempt: underdeveloped pieces, Queen getting chased around the board, and other weakening moves (Part 1).
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.6 (K) (See Appendix)
Research to Build and Present Knowledge:	CCSS.ELA-Literacy.W.(K-1)
Geometry:	CCSS: Math. Content. G.A.1 (K-5), G.A.2 (K-3)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1) CC.B.4 (K), CCSS.Math.Content.10A.A.1 and 2 (1st grade), CCSS.Math.Content:10A.C.5

Instructions

- Set up the chessboard and pieces in the starting positions and pair the students off.
- First, the student with the White pieces will attempt a Scholar's Mate checkmate against the f7-square. The student with the Black pieces will make no moves. The first player will demonstrate their basic knowledge of the four-move pattern and how to attack an opponent's weakest square.
- Reset the board. Now, White will attempt the Scholar's Mate checkmate again, but now his opponent will also make moves with the Black pieces. Black should attempt to defend against the checkmate, as he or she knows it is coming!
- If Black successfully defends against the Scholar's Mate threat, reward her or him with a small prize (small toy, treat, or other classroom reinforcement such as free time).
- Now, have the partners switch. The student who played White will now play Black, and repeat the same exercise. If this student successfully defends against the Scholar's Mate as Black, reward him or her with a reinforcement.

Students can attempt this exercise multiple times, each time trying to defend against the Scholar's Mate in a different way.

Activity 2: Draw some support

Activity goal:	Understanding the power of the Queen in checkmating patterns; reinforcing ideas of the “support” checkmate and how each piece contributes in a different way; to reward and provide encouragement for the basic task of setting up different checkmating patterns. (Part 2)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Setup empty boards and hand each student only one piece: a Queen.
- Have each student draw one additional piece (Pawn, Bishop, Knight, and Rook) out of a “mystery bag” of pieces.
- Each student must use their Queen and the piece that they drew from the mystery bag to create a “support” checkmate against a randomly placed Black King on an edge of the board.
- Make sure the student can create at least one “support” checkmate with that piece before letting her or him reach into the mystery bag for a different piece.
- Once the mate is created, have the student draw a different piece out of the mystery bag, and create different “support” checkmate with his or her Queen and the new piece.
- Students can try to create up to five different “support” checkmates with the different pieces.

Bonus activity:

Award a grand prize to the student who sets up the most “support” checkmates in a certain amount of time (racing against the clock, perhaps. If there are only 5 or 10 minutes left in the class, this will make it fun for the students). All students who set up X amount of “support” checkmates can also earn a prize; Teacher/Coach can vary prizes and giveaways based on class size, retention, and age.

LESSON 8

Lesson 8: Starting Out a Chess Game: Opening Principles



Overview

Lesson 8 builds on game strategy by teaching fundamental opening principles and themes for every student. It highlights the most efficient ways to develop every piece while controlling the most important part of the board: the center. This lesson is the perfect follow-up to Lesson 7, which emphasized some of the less successful (though fun) developing ideas.

Part 1 emphasizes the importance of developing all your pieces before moving any piece a second time. It also explains the advantages of achieving a “dream development” position in the first stage of a game, as well as the desire every player should have to gain a lead in development. Students also learn how moving the same piece twice in the opening, or developing the queen too early, can hinder their success in the opening by slowing down their overall development.

Part 2 explores how control of the center by developing pieces can lead to a dominant position, even in only the first 10 moves of the game. It also emphasizes that castling is essential to completing a successful opening strategy, while highlighting examples from the Ruy Lopez. After development in the center, castling, and connecting the Rooks, a student will be able to transition flawlessly into the next stages of the game.

The Practice Pages and Classroom Activities are essential to mastering opening strategies and for preparation to reach triumphant middlegames (and even endgames). Practice of these opening ideas aligns with K-5 Common Core State Standards (CCSS) for English Language Arts: Speaking and Listening, and Mathematics: Geometry (patterns, lines, angles and shapes), counting concepts, number names and count sequence, as well as Addition and subtraction within numbers less than 20.

Teacher's Guide

Though there are a number of different exercises that might help a beginning chess player learn the basic principles of the Opening, the best way for someone to understand and apply these concepts is through practical application. Time to play chess!

With the geometry and development patterns of the Opening fresh, now is the time to put this new knowledge to work. Have your students play games against one another as much as possible, and in addition to having them explain their chess-specific plans and knowledge, encourage them to point out any lines, angles, or shapes they see in the movement of the pieces over the board.

Encourage older students to use their understanding of coordinate squares to write down their games in algebraic notation. Further, when a player loses a piece (or even the game) because of lack of development, or failure to use all pieces correctly, point this out, and remind the student that if development had been completed, and he or she had paid attention to the geometry of the piece movement and placement—e.g., the Rooks were connected on a horizontal line and the entire army was working together—that mistake might have been avoided.

After learning the Quick Mates of Lesson 7 (Part 1), beginning chess players will want to develop their Queen early. Therefore, it is important to teach your students how to prevent quick checkmate tricks with natural developing moves, as this will combat the temptation to develop the Queen early. Helping students identify the different geometrical components of chess and its pieces will increase their vision of the board. This will greatly help in their decision-making process as to where pieces should be moved on the board.

Practical Notes and Advice—Lesson 8

- To help your students understand the concept that each piece is more active (and therefore more effective) when placed in the center, as well as see the geometry of each piece and how it moves and captures, place each piece in the center of the board and line up enemy pieces (of the opposite color) on squares that can be captured by that piece. Then do the same for a piece placed on the edge of the board. Students will quickly realize that a centrally-located piece has a better chance of capturing enemy chessmen.
- A fun and direct way for students to learn the concepts of development and using their army is for a coaches to have their students play practice games while monitoring them.



1. The coach can then walk by each game in progress.
2. If, after 15 moves, minor pieces remain on the back rank, simply take those pieces off the board, and tell the student, "I (the coach) need them for my collection of unwanted pieces."
3. If the student objects, simply add, "Well, it didn't look like you were going to use them anyway!"

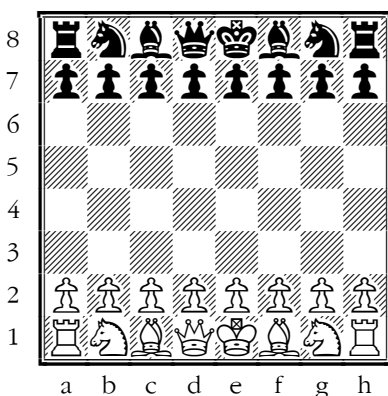
Lesson 8

Part 1: The Basics of Development and Queen Play in the Opening

Key Concepts

- Basics of developing your pieces.
- More development principles: don't move the same piece twice.
- How to use and NOT use your Queen in the Opening.

Phase 1: The most important rules to the Opening: develop, develop, and develop.



Pieces get bored on their original squares.

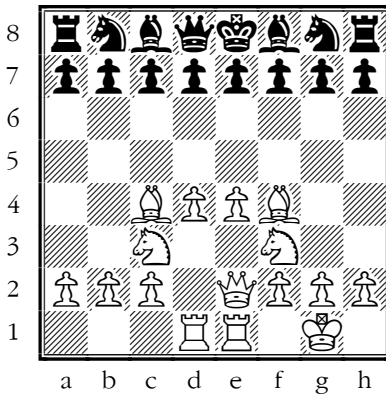
Development means to improve by expanding. To develop your pieces in chess is to activate them, **expanding** your position by moving each piece off its original square and into the game. Arguably, the most important thing a chess player needs to know is that he/she cannot win without using the full strength of the army!

Though we will talk more about all the ways to develop, where to put your pieces, and which ones to develop first in Part 2, all you need to know for now is that getting your pieces out and into the game is a super-smart move! **The first step to winning every chess game is development.**

Essential Question, Level I: Knowledge

In one or two paragraphs, how would you explain why it's so important to use all of your pieces in a chess game?

The dream Opening position, and defining a lead in development.



*An example of
super development.*

As we talked about in the first diagram, the goal of the Opening should be to develop all our pieces, getting them off the bank rank as soon as possible. But where, if unopposed by our opponent, are their best squares?

This diagram shows what a dream development plan might be, as White's pieces are controlling the most important area of the board: the center! We will dive more into why the center is so important in Part 2, but for now, you should know that from the center, all pieces have more options, and more options means more power. More powerful pieces get better tactics!

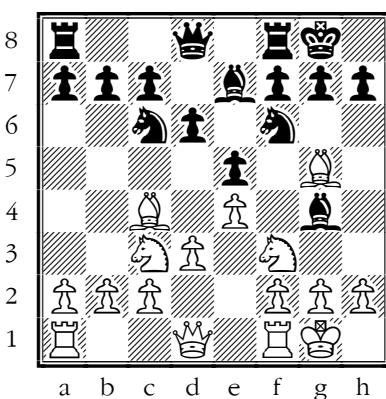
Leading in Development

A lead in development means that you have more pieces taking part in the game than your opponent. If a player is behind in development, that means she or he has more pieces sitting at home and less pieces developed (serving a purpose). Here, our example shows the white pieces with a huge lead in development over the black pieces. If this were a real game, White would be well on the way to a great Middlegame!

Essential Question, Level I: Knowledge

What makes White's development symmetrical?

Rule #4: Don't move a piece twice in the Opening before you're castled.



*All the minor pieces
are in the game.*

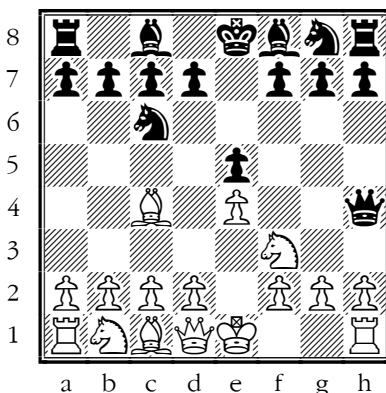
Our fourth rule is a tip that goes hand in hand with good development strategies. Before moving a piece a second time in the Opening, not one, not two, not three, but *all* of your minor pieces (Knights and Bishops) should be developed and working together. Furthermore, your King should be safely tucked away on either the Kingside or Queenside.

In our example diagram to Rule #4, we see good development for both White and Black. Though we have not officially transitioned into a Middlegame until the Rooks are connected (see Part 2), with a good development strategy, all the minor pieces should be “playing” by move seven, just as they are here.

Essential Question, Level I: Knowledge

Review: Using algebraic notation, can you recall the coordinates of all the developed pieces in this diagram?

Moving a piece twice: the exception to the rule.



*When free material is
offered, we can put our
principles aside... 4.Nxh4
wins immediately.*

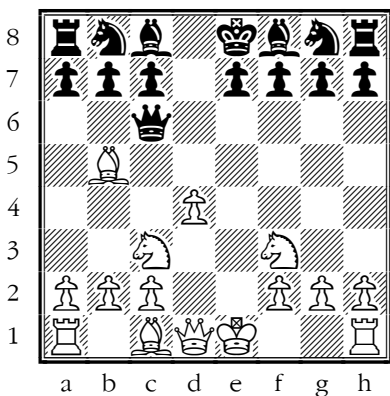
We must always be careful when finding exceptions to sound, important principles, but there will be opportunities to break every rule with good reason. Here we have provided a simple example of when you need to break the rules.

It is a little obvious, and perhaps too easy, but the point is clearly made: *you should only consider moving a piece twice when a large amount of material can be won.* White plays 4.Nxh4!, winning the Queen and likely the game. The same idea might apply if another piece was undefended. In chess terms, these types of easily-won pieces are known as *hanging* or *loose*, as we first discussed in Lesson 4.

Essential Question, Level I: Knowledge

What is the angle called in which the Knight moves so that it is able to capture the Queen on h4?

Rule #5: Keep your Queen safe. “Don't let Mama play with the kids.”



As powerful as she is, the Queen should not play with the kids.

Lesson 7 may have left the false impression that to bring your Queen out early for a chance at a quick mate is a bulletproof plan. Though it is necessary for every chess player to know the basic checkmates covered in Lesson 7, it *isn't* necessary that every player practice bringing his or her Queen out early.

Normally, early development of the Queen leads to disaster. Because the Queen is worth so much more than the minor pieces, getting mixed up with the little guys early is very risky for the first lady. Most chess coaches strongly oppose ideas to bring the Queen out early.

One example (ending in our diagramed position) is:
1.e4 d5 (trying to bring the Queen out aggressively)
2.exd5 Qxd5 3.Nc3 Qg5 4.Nf3 Qc5 5.d4 Qc6 Bb5!,
winning the Queen.

Essential Question, Level I: Knowledge

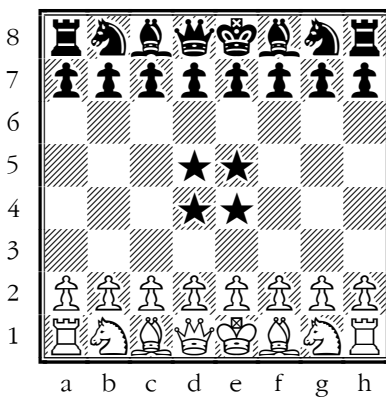
What type of line is the Bishop pinning the Queen to the King in this position?

Part 2: Advanced Development: Controlling the Center, Connecting the Rooks, and Playing with Purpose

Key Concepts

- Develop your pieces toward the center and with purpose.
- Get castled and connect the Rooks before move 10.
- Develop with a plan and purpose: create and defend threats!

Advanced development, Principle 1: develop toward and control the center.



e4, d4, e5, and d5 are the most important squares to control in the center.

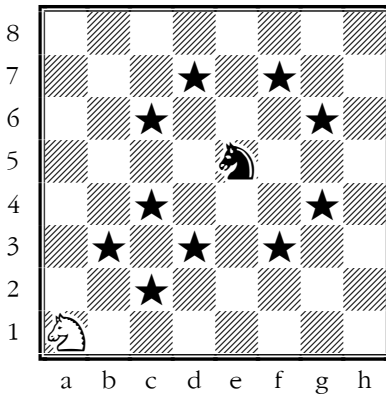
With the basic concepts of development understood, it is important to learn when, where, and why we should develop our pieces. The most important area of the board to control, whether by physical occupation of the pieces, or by threats, is *the center of the board*.

Place each piece on random squares, one at a time, and then count the number of squares they attack. It doesn't take long to realize that every piece will control more space, or at least maintain more options of movement, when in the center of the board.

Essential Question, Level II: Comprehension

Can you explain in your own words why the diagonals, ranks, and files that come under attack by pieces in the center are potentially more valuable than the edges of the board?

“A Knight on the rim is grim.” Good pieces play in the center of the board.



Here we see just how important the center is.

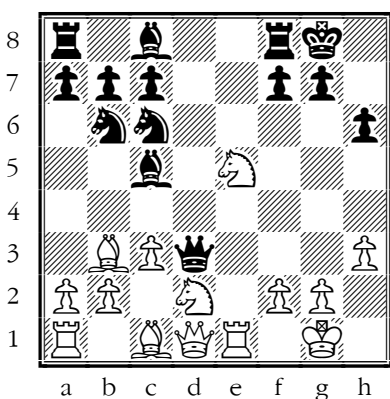
Perhaps the piece that most obviously teaches us the importance of central control is the Knight. Though all pieces are better when attacking through the center, we see a huge difference between the Knight on e5 and the Knight on a1.

In this position, the e5-Knight controls eight squares, compared to two squares by its white counterpart. Also highlighted here is the amount of options the e5-Knight has, with access to the Kingside, Queenside and center areas of the board. In a Middlegame battle, the pieces with more options of attack are always more valuable.

Essential Question, Level II: Comprehension

The Knight controls eight squares when placed in the center. What can you say about the shape the placement of the Knight's eight stars create when you connect the stars?

Advanced development, Principle 2: get your King safely out of the center.



White's last move:
12.Nxe5 would not have
been possible without
castling.

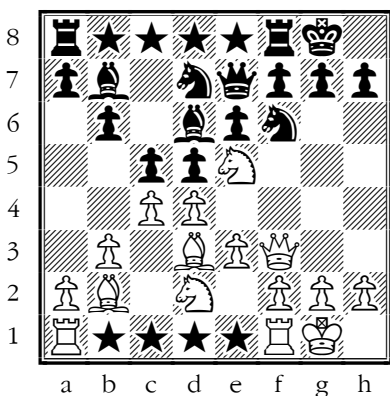
Along with developing your pieces toward the center, getting castled should be on the top of your list. Castling is the most efficient way to safeguard your King, get your Rooks into the game, and coordinate your army, all in one move! Castling is also one of the final steps toward completing your development and the Opening stage.

As the center becomes the main battlefield, it makes perfect sense to exit with the King, while entering with a Rook. As we see in our example position from the Giuoco Piano Opening in the game Kramnik-Krasenkow Wijk aan Zee 2003, if the e1-Rook and the g1-King switched places, White would be in serious trouble, with an unprotected Knight and an exposed e-file.

Essential Question, Level II: Comprehension

How is the Rook on e1 protecting the Knight on e5: vertically or horizontally?

Advanced development, Principle 3: get castled and connect the Rooks by move 10.



Black just played 11...Bb7:
the Rooks connect.

This advanced principle can serve as a good insurance plan in case you start following the rules of development but somehow decide to get lazy along the way. Your plan of development should not be considered complete until you get castled and your Rooks are connected. What does it mean if your Rooks are connected?

It means you have

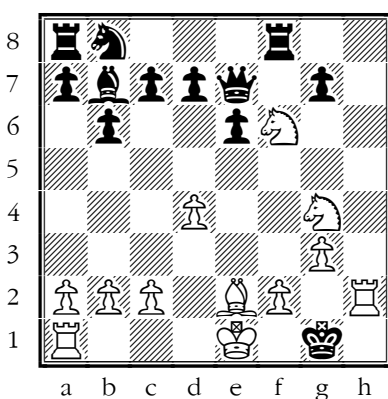
- 1) developed all your minor pieces
- 2) gotten castled, and
- 3) finally brought your Queen out to a more active (hopefully safe) square.

If you have connected your Rooks, then you have likely completed the first stage of the game (the Opening) and are now preparing to play a good Middlegame.

Essential Question, Level II: Comprehension

How would you classify the type of line the two connected Rooks are on, compared to the Bishops when they are developed in the Opening?

Great chess players castle to checkmate.



Castle and checkmate.

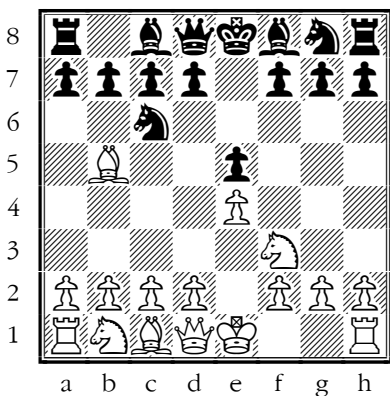
To castle or not to castle is...not a question! For great chess players—like this game between Edward Lasker and Sir George Thomas, in London 1912—castling is always in the works. Here the position is White to play and checkmate in one move. Can you see it?

18.0-0-0!! is checkmate (so was 18.Kd2). With White's last move (17.Rh2 check) forcing the black King to g1, the final blow is delivered with style. Though a chess player rarely delivers checkmate when castling, he or she is almost always headed in the right direction.

Essential Question, Level II: Comprehension

Thinking back to much earlier in this game, can you explain what the best answer would be for Black in how he or she could have avoided getting the King to the first rank?

Advanced principles: development with a purpose—the Ruy Lopez, or Spanish, game.



In the Ruy Lopez, every move has a specific threat or idea.

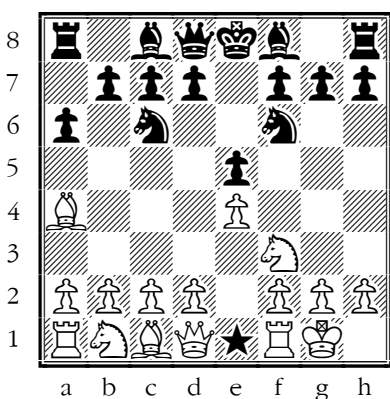
Though there are many great games and opening variations that can teach you how to develop with a plan, one of the most common—and perhaps most important—for beginning chess players to learn is the Ruy Lopez (Spanish).

A favorite Opening of many great world champions, including Bobby Fischer and Garry Kasparov, the Ruy Lopez defines development with a plan on every move. To prove it, we are going to provide a small explanation after every move for the first few moves: 1.e4 e5; both moves attack the center – 2.Nf3; attacking the e5-Pawn – 2...Nc6; defending the e5-Pawn – 3.Bb5; attacking the c6-Knight who also defends the e5-Pawn. (Continued...)

Essential Question, Level III: Application

At this early stage, who has more control over the enemy's side of the board: White or Black? Apply what you have learned to explain your answer.

Advanced Principles, Develop with a Purpose: The Ruy Lopez or Spanish Game



As shown, attacking or defending your center is key with every move.

(Continued...) 3...a6; attacking the b5-Bishop – 4.Ba4; defending the Bishop and maintaining pressure on the c6-Knight (if 4.Bxc6 dxc6 5.Nxe5 Qd4! 6.Nf3 Qxe4+ wins back the Pawn with check) – 4...Nf6; attacking White's e4-pawn – 5.O-O; safeguarding the King and indirectly defending the e5-Pawn (due to 5...Nxe4 being met by 6.Re1! attacking every piece along the e-file).

And the game continues with more moves of specific purpose. As a chess player improves, and using all the pieces is no longer a new concept, the most important thing to establish is that every developing move can and should create a threat or defend against an opponent's threat.

Essential Question, Level II: Application

Why is the e1-square so important in this and other diagrams, where Black has not yet castled and White has? What could the result be if Black never castles? What examples can you give to support your explanations?

Lesson 8 Summary and Linking Content to Standards

In Lesson 8, students were introduced to key Opening strategies. By learning some of the most fundamental Opening principles—developing all of your pieces, controlling the center, castling, and connecting the Rooks—the students align their work with Research to Build and Present Knowledge Comprehension and Collaboration of the K-5 Common Core State Standards (CCSS) for English Language Arts: Speaking and Listening. The work also applies to Geometry, Counting concepts, Number names and count sequence (1st/2nd) and Addition and subtraction within numbers less than 20 (for 1st/2nd grades) by emphasizing how a successful Opening strategy will result in controlling the chess board for future plans in the Middlegame, and even the Endgame. These advanced Opening skills provide students with the tools necessary to improve their understanding of the later stages of a chess game.

Students first learned the importance of developing all of their pieces—not just moving one piece multiple times or developing only the strongest piece (the Queen). Next, students learned that developing these pieces towards the center of the board allows for more control and more options for the pieces to move in the Middlegame. Students were also provided with an example of an Opening—The Ruy Lopez, or Spanish—in order to emphasize these Opening ideas in practice.

Additionally, students are now able to use pieces cohesively and to think ahead, a critical skill that ties directly to district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), where students use the above ELA and Speaking and Listening, as well as Math content standards, to demonstrate the ability to take information provided and express ideas with others through collaboration and writing.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 & 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Reading: Range of Reading and Level of Complexity: K

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Develop range in reading	RL: K

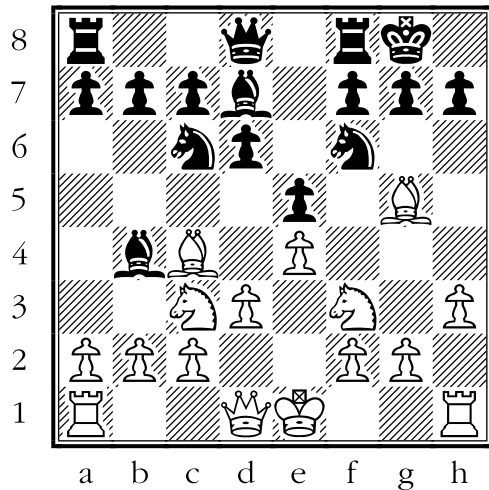
Practice Pages

Practice 1: Connect the Rooks

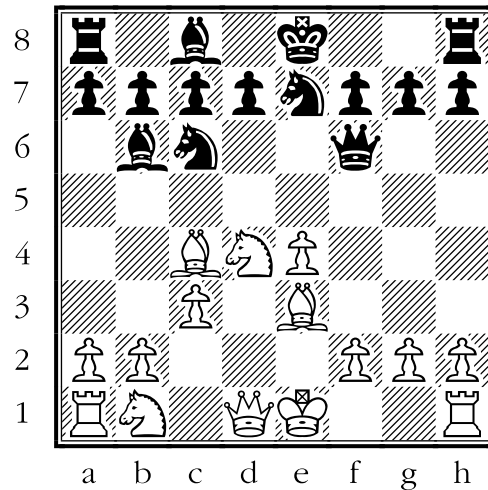
In each position, White wants to complete development by connecting the Rooks in as few moves as possible.

Write the number of moves it would take for the white Rooks to connect.

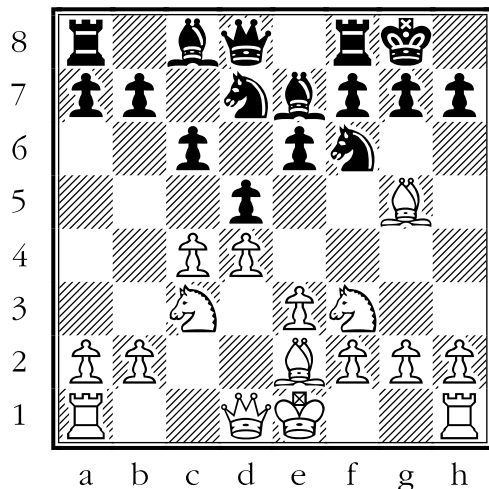
As a bonus, draw arrows to show the moves White could make to get there.



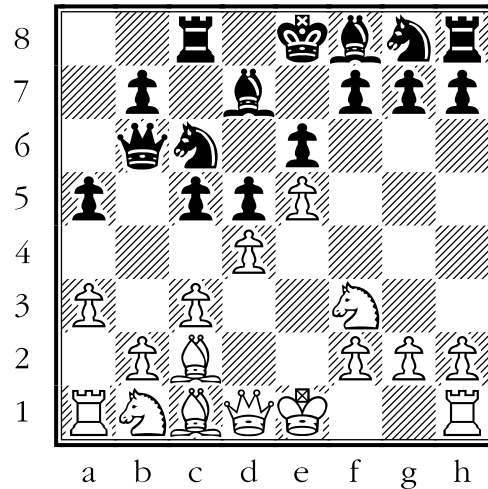
Develop and connect the Rooks.
How many moves? ____



Develop and connect the Rooks.
How many moves? ____



Develop and connect the Rooks.
How many moves? ____

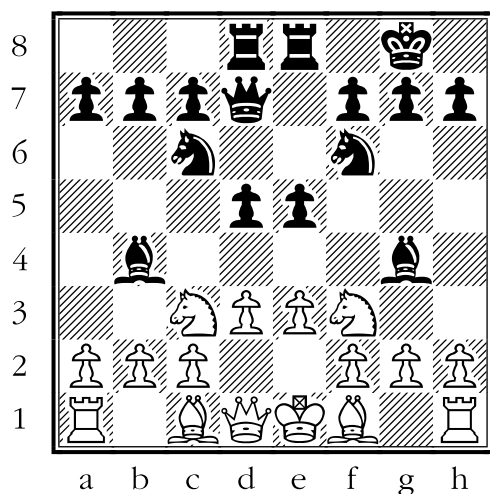


Develop and connect the Rooks.
How many moves? ____

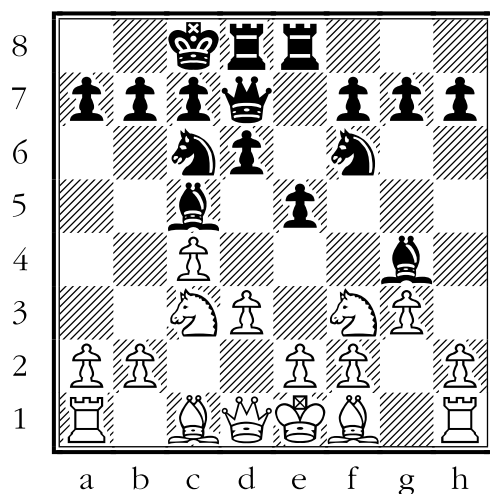
Practice 2: Counting development

In each position, circle the color of the player who is further ahead in development (has moved more pieces off starting squares).

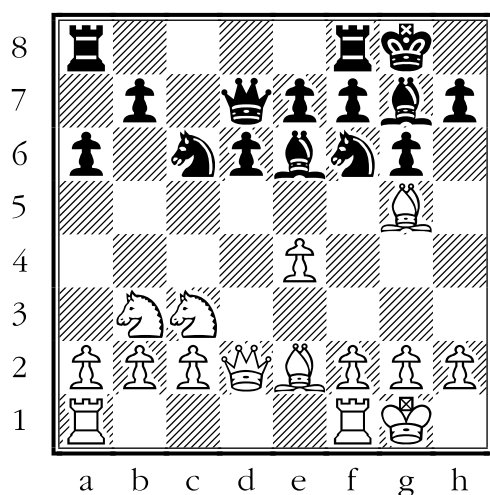
Circle White, Black, or Equal.



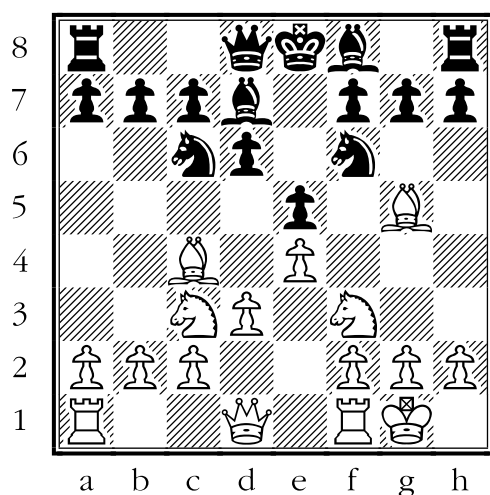
Who has developed more pieces?
White Black Equal



Who has developed more pieces?
White Black Equal



Who has developed more pieces?
White Black Equal



Who has developed more pieces?
White Black Equal

Answer Key

Practice Page 1: Connect the Rooks

Diagram #1 2 moves: 1.Qe2 or d2 and 2.0-0 or 0-0-0 OR 1.0-0 and 2.Qe2 or d2.

Diagram #2 2 moves: 1.d1-Q develops and 2.0-0 or 0-0-0 OR 1.0-0 and 2. d1-Q develops.

Diagram #3 3 moves: 1.Nd2 or a3, 2.d1-Q develops and 3.0-0 or 0-0-0 OR reverse order.

Diagram #4 4 moves: Develop b1-N, c1-B, d1-Q and 0-0 or 0-0-0 OR reverse order.

Practice Page 2: Counting development

Diagram #1 Black

Diagram #2 Equal

Diagram #3 Black

Diagram #4 White

Classroom Activities

Activity 1: Group Development

Activity Goal	Understanding key Opening principles better and reinforcing successful Opening strategy will lead to more triumphant positions in the later stages of the game, as will rewarding principles such as developing all pieces towards the center of the board and castling. (Part 1 and 2)
Comprehension and Collaboration	Speaking & Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.5 and 6 (K and 2)(See Appendix)
Range of Reading and Level of Text Complexity	CCSS.ELA-Literacy.RL.K.10,RI.3&4(1-2), CCSS.ELA-Literacy.W.1(K-1), 2-8 (K-5); ELA-Literacy.L1.1G,1.1I (1 st grade), 2.6 (2 nd grade)
Geometry	CCSS: Math. Content. G.A.1 (K-5),G.A.2 (K-3)
Counting	CCSS.Math.Content. CC.A.1&2 (K-1);CC.B.4 (K)
Addition and subtraction within 20	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Set up a full demo board and divide the class into two equal teams of players.
- Team A will play with the White pieces, while Team B will play the Black pieces.
- Have one player from Team A suggest White's first move; make it on the demo board. Have that player explain why the suggested move is the choice and what Opening idea or strategy it aligns with (controlling the center, connecting the Rooks, etc.)
- Next, have one player from Team B suggest Black's first move.
- Continue this for 15 moves. Let a different player from each team recommend a move each turn, so that every player has a chance to participate.
- At the end of 15 moves, emphasize the things each team did well. Coach/teacher can also show areas for improvement.

Students can work together with other members of their team in order to come up with a strong move that aligns with one of the core Opening principles learned in Lesson 8.

Activity 2: On the Clock

Activity goal:	Understanding key Opening principles better and reinforcing successful Opening strategy will lead to more triumphant positions in the later stages of the game; helping students memorize these ideas and utilize them in their own games. (Part 1 and 2)
Comprehension and collaboration:	Speaking & Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5); CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.6 (K)(See Appendix)
Range of reading and level of text complexity:	CCSS.ELA-Literacy.RL.K.10, RI.3 and 4(1-2), CCSS.ELA-Literacy.W.1(K-1), 2-8 (K-5);ELA-Literacy.L.1.1G,1.1I (1 st grade), 2.6 (2 nd grade)
Geometry:	CCSS: Math. Content. G.A.1 (K-5), G.A.2 (K-3)
Counting:	CCSS.Math.Content. CC.A.1&2 (K-1); CC.B.4 (K)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2)(See Appendix)

Instructions

- Set up boards and sets and pair off students.
- Set up clocks on each board. Give students three minutes each.
- Each student must play 15 moves before his/her time expires.
- The goal is for each student to use as many Opening principles and strategies as possible within 15 moves, including developing, controlling the center, castling, connecting the Rooks, etc.
- At the end of 15 moves, take away the clocks, and allow the students to complete the game they have started.
- At the completion of each game, have students explain how the first 15 moves helped them in their future game strategy (e.g., used the center to develop a strong King attack, used central Knights to take enemy pieces, etc.)

Coach/teacher can award small prizes for successful completion of the Opening in the time allotted and for the best explanations on the importance of Opening principles and strategy.

Activity 2: Developing for points, again

Activity goal:	Reinforce ideas from Lesson 6; understanding key ideas; reinforcing successful Opening strategies and principles. (Part 1 and 2)
Comprehension and collaboration:	Speaking & Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.6 (K)(See Appendix)
Range of reading and level of text complexity:	CCSS.ELA-Literacy.RL.K.10,RI.3 and 4(1-2), CCSS.ELA-Literacy.W.1(K-1),2-8 (K-5);ELA-Literacy.L1.1G,1.1I (1 st grade), 2.6 (2 nd grade)
Geometry:	CCSS: Math. Content. G.A.1 (K-5),G.A.2 (K-3)
Counting:	CCSS.Math.Content. CC.A.1&2 (K-1);CC.B.4 (K)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Set up boards and sets and pair off the students.
- Provide students with sheets of paper and pencils.
- As each student makes a move, have him/her write down the purpose behind that move (e.g., developing a piece, controlling the center, etc.)
- Every time a piece is developed off the back rank, a student earns one point.
- Every time a student moves a piece and aims it at the center, showing which center squares it is controlling, he or she earns two points.
- Castling is worth three points.
- Showing that the Rooks are connected is worth two points.
- Bonus: five points if all pieces are off back rank, player is castled, and Rooks are connected before move 15. Bonus: 10 points if the player meets those criteria before move 10.
- Extra bonus: Read through the explanations each student wrote down. Assign 1-10 bonus points based on student explanations.

Multiple points can be awarded for one move (e.g., developing the Knight on g1 to f3 earns three points: one for developing off the back rank, one for attack/pointing towards the center).

Award a prize (small toy, treat, free time, or other classroom motivation) to the student who earns the most points. Or, all students who reach a given number of points get a prize. Teacher/coach can vary prizes and giveaways based on class size, retention, and age.

SECTION 3

Section 3: Tactics



LESSON 9

Lesson 9: Chess Tactics: Double Attack and the Fork



Overview

Lesson 9 introduces *tactics*, which are loosely defined as an important sequence of attacking moves that typically result in a material or positional gain. Two of the most common types of tactics are the double attack and the fork. The lesson highlights how every piece can participate: Bishops, Rooks, and Queens create deadly double attacks, while even the less powerful Pawns and Knights have the potential to create forks. It also talks about how to differentiate between a strong double attack and a move that may attack multiple pieces, but may not be successful.

The Practice Pages and Classroom Activities, in addition to the resources found online at ChessKid.com, provide excellent practice in learning the new skill set that comes with recognizing and playing tactical strategies and moves. Mastering tactics such as the double attack and the fork tests a student's ability to see the entire chessboard and to recognize the strengths and weaknesses of each piece, which aligns with Common Core State Standards: Geometry (K-5). If students practice regularly, they should now be at the stage where they realize how valuable an edge in material can be in improving their chances to win the game. Double attacks and forks will assist students in their plans.

Teacher's Guide

The importance of this lesson, and other lessons to follow on tactics, should be very clear: tactics are the major deciding factor of winning or losing every chess game, especially at the beginning stages of chess. The basics of counting attackers and defenders was discussed in Lesson 4, but here, the concept of attacking your opponent's pieces in specific ways is introduced. Ultimately, no amount of general chess advice or positional chess knowledge can help a chess player who misunderstands tactics!

The double attack is self-explanatory, and its merit is obvious: attacking two things at the same time is better than attacking one. Recognizing and creating opportunities for powerful double attacks and forks, however, is a more difficult matter, which is why students need their own experience looking for these opportunities. With practice on ChessKid.com Puzzles, your students will soon see how often double attacks and forks occur in real games.

Practical Notes and Advice—Lesson 9

- The best type of double attack is one that targets two undefended or “loose” pieces/squares in your opponent's position.
- Teaching your students to look for “hanging” (undefended) enemy chessmen, as well as pieces on open or vulnerable lines, is the first step towards helping them see double attacks and forks regularly.
- Have your students demonstrate use of double attacks or forks (or both) by playing practice games.

Lesson 9

Part 1: Essential Tactics: Double Attack and the Fork

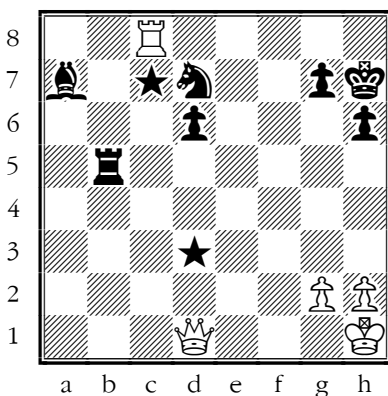
Key Concepts

- Learning to double attack in chess.
- What is a fork?

Now that you've been introduced to the basic terminology of chess, some fundamental strategies, and the different phases a chess game might take, it is time to learn what 90% of winning chess games is all about: tactics!

A *tactic* is any capture (or threat of capture), or checkmate (or threat of checkmate) to the enemy army. A *combination* is often a sequence of moves that result a material gain.

Two is better than one, and double attacks are simply more fun.



1.Rc7 and 1.Qd3+ are both double attacks.

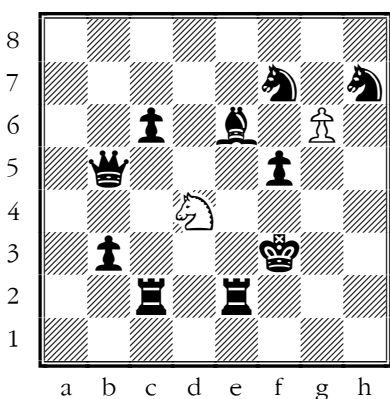
90% of chess is tactics! The reason? All games are eventually decided by tactics. Though it is true that many different positional and long-term strategies you'll learn later are just as important, you must first learn how to use tactics. Tactics win pieces, more pieces lead to better chances of checkmating the enemy king, and checkmating the enemy king is the goal.

Our first tactic is the double attack, or fork. Here White has two possible methods of double attack, and they both win material. A double attack is simple: a move that attacks two pieces at the same time.

Essential Question, Level IV: Analysis

What are the functions of the White Rook and Queen in this diagram?

Double attacks continued: the fork! A double attack by a Knight or Pawn.



When a Knight or Pawn attacks two enemy pieces, this is called a fork. Why the different name? Because the Knight and the Pawn attack in such a way that is “split,” just like the fork you use to eat. In our diagram, both the Knight and Pawn are “forking” at least two Black pieces.

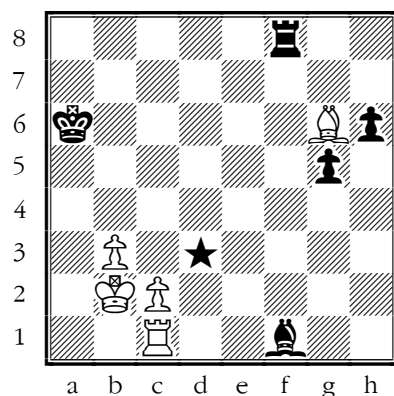
Though it is possible for a Knight to fork up to eight enemy pieces, like this position here, it is highly unlikely. The most common fork is simply a double attack (two pieces). If the enemy king is forked, good results will usually follow, as a check is something the enemy must always deal with.

Essential Question, Level IV: Analysis

Analyze the diagram. How many pieces are being attacked by the White Knight, and how many pieces should White actually consider taking, based on their value?

The best way to learn how to use tactics is practice, and we will get to the Practice Pages soon enough! You can also put your knowledge to use with ChessKid.com’s puzzle trainer tool on our website.

Double attacks by Rooks, Bishops, and Queens.



*1.Rxf1! Rxf1 2.Bd3+!
winning by double attack.*

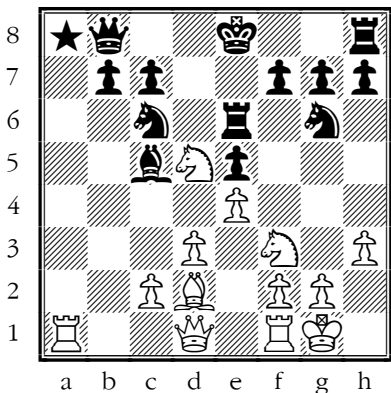
Seeing a double attack tactic when it's right in front of you is one thing, but it is also important to learn how to find viable (worthwhile) targets for a tactic. This is the method of recognizing tactical patterns. Patterns repeat, right? Well, in chess positions repeat too. The following examples are three very common ways to double attack and fork your opponents.

Here we see the potential target: the Black king and Bishop are on the same straight line (diagonal). Whenever your opponent's pieces show alignment on the same diagonals, ranks, or files, there is often a chance for a tactic, and this is no exception! See the answer beneath the diagram. White wins a piece.

Essential Question, Level IV: Analysis

What ideas justify the importance of this tactic to work with the Black king placed on a6, allowing the Bishop to come to d3 with check on the second move?

Double attacks by Knights and Pawns.



White used the strong Knight and the open file for the Rook to create a fearsome fork.

Let's keep looking for tactical targets!

Whenever the enemy king is on a straight line with his pieces, there might be a chance for a double attack, like the one used in our previous diagram. That is a pattern! Likewise, whenever we have a strong Knight in the center, with lots of enemy pieces around it, we should look for an opportunity to execute a fork tactic. Can you see it?

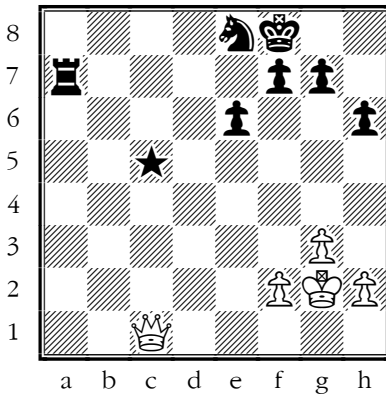
White's Knight on d5 is a super-horsey, and Black hasn't castled the king yet! Those two things could be a recipe for disaster for Black. It's White's job to punish the Black king for hanging around in the center too long. White plays 1.Ra8!!, sacrificing the Rook in order for the c7-Pawn to become undefended. After Black has to play 1...Qxa8 (or lose the Queen), White plays 2.Nxc7+!, forking the king, Queen and Rook on e6. We call this a royal fork, because all of Black's major pieces are under attack.

Essential Question, Level V: Synthesis

What is the relationship between the White Rook (a1) and the White Knight (d5) in this Royal Fork?



Not a fork, but a spoon: double attacks that aren't really that good.



*1.Qc5+ is met by 1...Re7,
guarding the Rook.*

Tactical patterns like the ones shown in the examples above happen every day in chess games all around the world, and you can use the Practice Pages to see more patterns of double attacks and forks. To bring the instructive part of the lesson to a close, here we provide an example of a not-so-impressive fork: a spoon!

A “spoon” is a fun term for a double attack that doesn't really do anything. If a Knight tried to fork an enemy Knight, for example, that might be a spoon, because an enemy Knight can capture the same way your Knight can. Here White gives a check and double attacks the Rook and king to no avail, as Black can simply protect both pieces.

Essential Question, Level V: Synthesis

Why do you think the author chose the term “spoon” to describe an ineffective fork?

Lesson 9 Summary and Linking Content to Standards

In this lesson, students learned two of the most popular tactics that occur in a chess game: double attacks and forks. Each of these tactics enables students to attack multiple enemy pieces at once while using only one of their own pieces. Both are great weapons of attack at any stage of the game. This lesson specifically aligns with the Common Core State Standards for Geometry (K-5), by emphasizing piece cohesion and sequences of moves that result in a benefit or gain for a student. Advancing a student's tactical skills through understanding angles and shapes they see or memorize on the board in repeating patterns will help them develop advantages over tough opponents.

Students first learned the importance of looking for their opponent's weak squares and open pieces, which may be vulnerable to attack. Next, they saw examples of how every piece can be used to coordinate an attack against. Students saw several examples of double attacks that were successful, and an example of a double attack that was not effective because it did not result in a material gain.

As a takeaway, students are now able to use pieces cohesively to attack multiple enemy targets and to think ahead, recognizing potential targets of attack, a critical skill tied directly to district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), which uses the Common Core State Standards to gauge student ability. A student should be able to connect to content (modeling/application) and be able to solve real-world problems (in this curriculum real-world chess games) with a degree of difficulty appropriate to the grade/course, by applying knowledge and skills articulated in grade-level-appropriate standards.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5

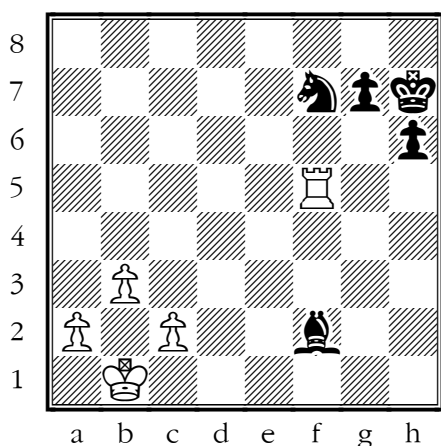
Practice Pages

Practice 1: Which is it?

In each diagram below, White is applying a strong Double attack/fork, or a "spoon," in that it is an ineffective Double attack/fork.

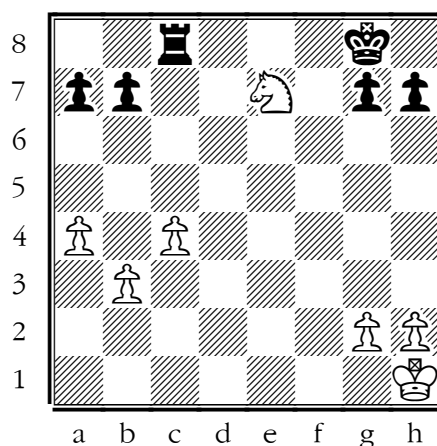
Circle the correct answer beneath each diagram.

BONUS: Circle the White piece that is doing the attacking in each position.



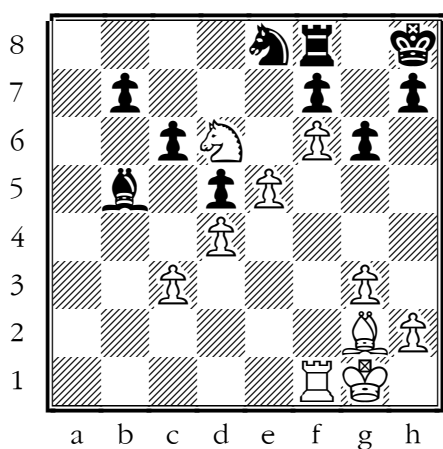
Circle the correct answer

Double attack/fork **Spoon**



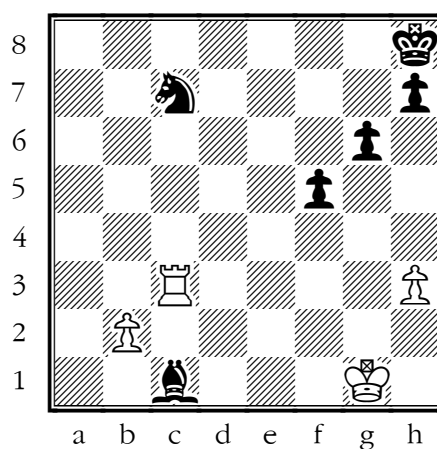
Circle the correct answer

Double attack/fork **Spoon**



Circle the correct answer

Double attack/fork **Spoon**



Circle the correct answer

Double attack/fork **Spoon**

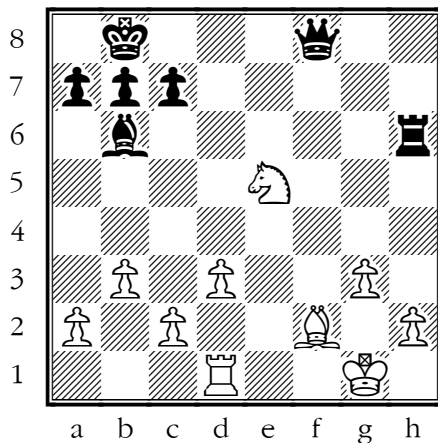


Practice 2: Double attacks and forks

In each diagram there is an opportunity for either White or Black to apply a double attack to the opponent.

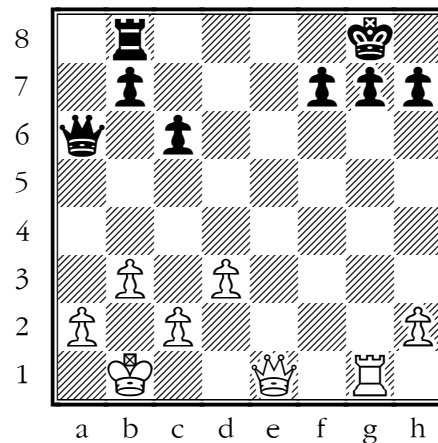
Circle the piece and draw an "X" on the square it should move to.

BONUS: Use algebraic notation and write down the move to the right.



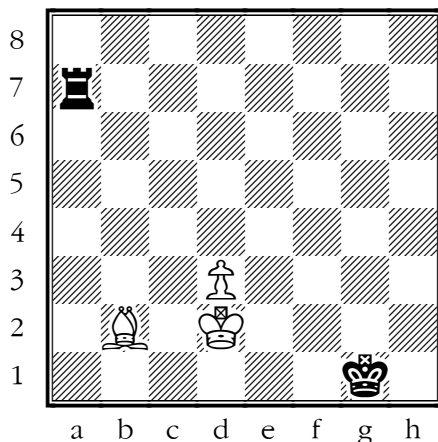
White to play:

find the double attack.



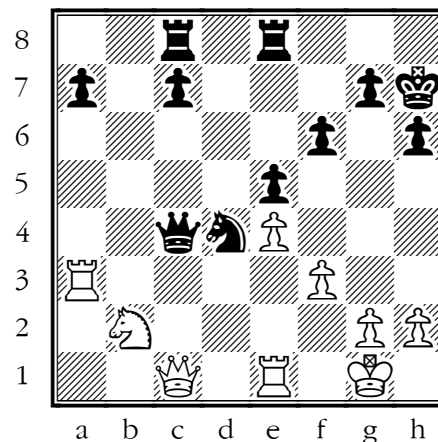
White to play:

find the double attack.



White to play:

find the double attack.



White to play:

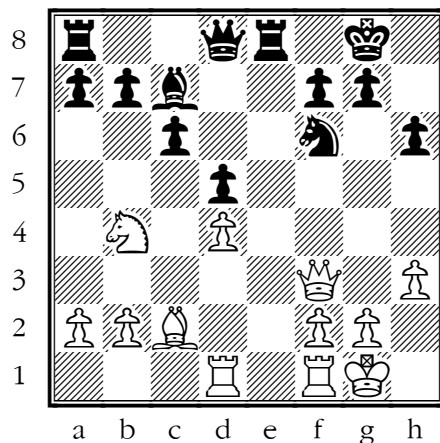
find the double attack.

Practice 3: Tricky double attacks

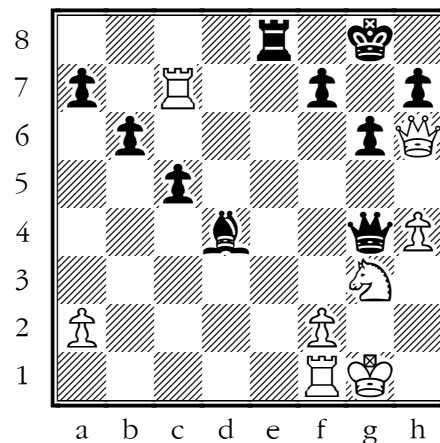
In each diagram, there is an opportunity for either White or Black to apply a double attack to the opponent.

Circle the piece and draw an "X" on the square it should move to.

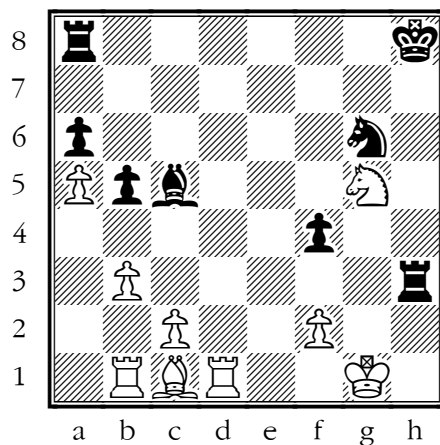
BONUS: Use algebraic notation and write down the move to the right.



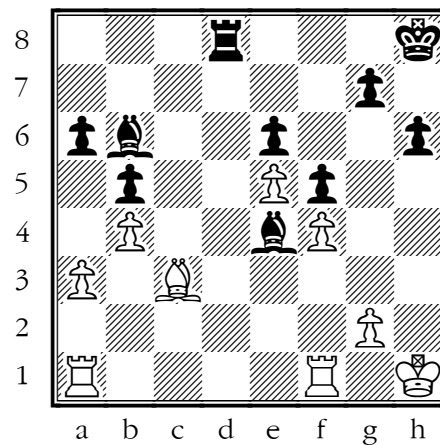
Black to play:
find the double attack.



Black to play:
find the double attack.



Black to play:
find the double attack.



Black to play:
find the double attack.

Answer Key

Practice Page 1: Which is it?

Diagram #1 Double attack. Circle White Rook on f5.

Diagram #2 Spoon. Circle Knight on d6. Both pieces are protected and the Knight on e8 can capture the Knight on d6, so this fork is actually a spoon.

Diagram #3 Fork. Circle the Knight on e7.

Diagram #4 Spoon. Circle the White Rook on c3. Despite the double attack, Black can play 1...Bf4, protecting both the Bishop and the c7-Knight.

Practice Page 2: Double attacks and Forks

Diagram #1 1.Nd7+ Forking the king and Queen. Circle e5-Knight and "X" the d7-square.

Diagram #2 1...Bd4+! A double attack of the king and the a7-Rook. Circle the b2-Bishop and d4-square.

Diagram #3 1.Qe5! A double attack of the b8-Rook and the g7-square (which is the threat of checkmate). Circle the e1-Queen and "X" the e5-square.

Diagram #4 1...Ne2+ Forking the king and Queen. Circle the d4-Knight and "X" the e2-square.

Practice Page 3: Tricky Double Attacks

Diagram #1 1...Qd6! A double attack of the b4-Knight and the h2-square (which is the threat of checkmate). Circle the d8-Queen and "X" the d6-square.

Diagram #2 1...Rg3+! A double attack of the g5-Knight and the king (White's f2-Pawn is pinned. See Lesson 10). Circle the h3-Rook and "X" the g3-square.

Diagram #3 1...Qxg3+!! A double attack of the c7-Rook and the king (White's f2-Pawn is pinned. See Lesson 10). Circle the g4-Queen and "X" the g3-square.

Diagram #4 1...Rd3! A double attack of the c3-Bishop and the h3-square (which is the threat of checkmate). Circle the d8-Rook and "X" the d3-square.

Classroom Activities

Activity 1: Fork in the road

Activity goal: Creating double attacks and forks with a variety of pieces; reinforcing that successful tactical strategy leads to material gains; exposing students to these ideas so that they are able to utilize them in their own games. (Part 1)

Comprehension and collaboration: Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)

Geometry: CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Hand each student two Black Pawns and one White Knight, Bishop, Rook, Queen, and king.
- Have each student set up a double attack or fork on these two Black Pawns using the following pieces in this order: a Knight, Bishop, Rook, Queen, and king.
- Have each student explain why the position he or she has set up is either a double attack or a fork.
- After completion, students can do the same activity with another piece, like the Black Knight.

Students can also work in pairs during this activity. Additionally, students can be assigned a limited amount of time to perform this activity, and be timed using a chess clock.

Activity 2: Name that tactic

Activity goal:	Understanding what double attacks and forks look like in a practical game setting; reinforcing that successful tactical strategy leads to material gains, which can turn an equal position into a winning game; exposing students to these ideas so that they are able to utilize them in their own games. (Part 1)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up boards and sets and pair off students.
- For this activity, you can also pair students together using ChessKid.com's fast or slow chess tool features.
- Have each student begin a normal chess game.
- Any time students notice a double attack or a fork in their game, have them show you the tactic, as well as explain what type of tactic it is.
- At the completion of all games, review with the entire group the successful double attacks and forks that were commonly used by the students, as well as any potential missed tactical sequences.

Coach/teacher can award small prizes for to the students who successfully complete the most double attacks and forks, and who have the best explanations of their tactics.

LESSON 10

Lesson 10: Chess Tactics —Learning to Pin and Skewer



Overview

Lesson 10 of the curriculum introduces another pair of deadly tactics, known as pins and skewers. When used correctly in games, these two tactical sequences often lead to a substantial gain in material. The lesson shows which pieces can participate in these types of tactics, as well as the different kinds of pins and skewers that are possible in a single game. It also emphasizes the tricky nature of these tactics and how to beware of pins and skewers used by an opponent.

Part 1 teaches which pieces can make a pin, and why a pin is an excellent tactical resource that can be used in a student's games. It highlights the difference between an absolute and a relative pin, as well as the different advantages of each tactical idea. Part 2 gives students a useful skill that they can use against tricky opponents: breaking out of a pin and saving their pieces from possible tactical problems, giving them a strong defensive weapon. Part 3 teaches a different chess tactic, the skewer, which is sometimes known as the "anti-pin." It highlights the ways in which a skewer differs from a pin, while showing examples of successful skewers to both pieces and squares on the board.

The Practice Pages and Classroom Activities provide excellent practice in learning the new skill set that comes with recognizing and playing these tactical strategies and moves. Especially when used in conjunction with the large database of puzzles at ChessKid.com, these pages and activities are key to instilling students' full integration of these tactical patterns.

Mastering tactics such as the pin and the skewer tests a student's ability to see the entire chessboard and to recognize the strengths and weaknesses of each piece, which aligns with Common Core State Standards (K-5) implementation, but specifically targets CCSS: Math. Content. G.A.1 (K-5), G.A.2 (K-3) (see appendix) for Geometry and pattern recognition, as well as the very crucial standards for Kindergarten and First grades for counting and naming numbers and sequencing of numbers. Students are now at the stage where they are realizing how valuable an edge in material can be in improving their chances to win chess games.

Teacher's Guide

Pins are arguably the most commonly repeating tactical theme in the game of chess. Though the other tactical patterns discussed in Lessons 9-12 all occur with frequency, a pin often takes place early in the game, and in many of the most common Openings. Teaching your students to recognize pins and, most important, the concept of how to exploit a pinned piece (learning not to just quickly trade but instead to “gang up” on the pinned piece) is critical.

The concept of breaking a pin is a tricky one, because you don't want your students continually looking for ways to sacrifice their Queen for a discovered attack by the Knight, yet at the same time you want your students aware that a relative pin should not be taken for granted. One, perhaps more practical way of breaking a pin (not discussed in detail) is simply the idea of going after the enemy's “pinning piece” with other forces in your army. Attack a “pinning Bishop” with a Pawn, or chase away a “pinning Rook” by attacking it, etc.

Practical Notes and Advice—Lesson 10

- As in other lessons discussing tactical themes, we recommend your students point out each time a pin and/or skewer occur during their games. Ask them to tell you whether each is relative or absolute. Use ChessKid.com as a resource for your students to find games against different opponents from around the United States and world.
- Skewers are easy and fun to teach! Many combinations end with a skewer as the final blow to win material. Reference Part 2, Diagram 4 of Lesson 6 again (the diagram that shows the importance of considering every Queen attack) to show the students a position with multiple skewers that repeat by the Rook and Bishop.
- Emphasize that a chess player can never solve enough tactics. Get your kids busy on ChessKid.com's puzzle trainer!

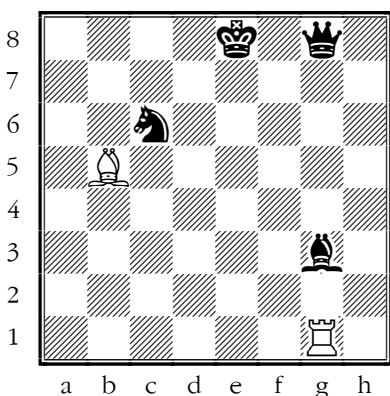
Lesson 10

Part 1: Winning Chess Tactics—Learning to Pin

Key Concepts

- What is a pin, and which pieces can make a pin?
- The difference between an absolute and relative pin.
- How to win a pinned piece.

Introducing the pin: what is a pin, who can make a pin, and why are pins good?



The c6-Knight is pinned to the King, and the g3-Bishop to the Queen.

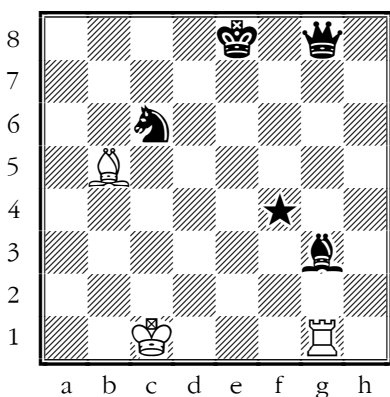
When a piece cannot move because it is stuck, or blocking a more valuable teammate from being captured, that piece is pinned. The piece that is applying this pin is known as the pinning piece. *Pins* are a tactical motif that occurs solely on the straight lines of the chessboard (the ranks, files, and diagonals).

Because pins can only occur on the straight lines of the board, only three types of pieces can make a pin: Queens, Rooks, and Bishops (compare this to a double attack, which can technically be carried out by any one of the chessmen). The Bishop and Rook are both pinning pieces in this position, with two different types of pins taking place.

Essential Question, Level I: Knowledge

Why is it not possible for a Pawn, Knight, or King to be a pinning piece?

Two kinds of pins: absolute and relative. What's the difference?



A relative pin, like the g3-Bishop, can be broken, but only for good reason!

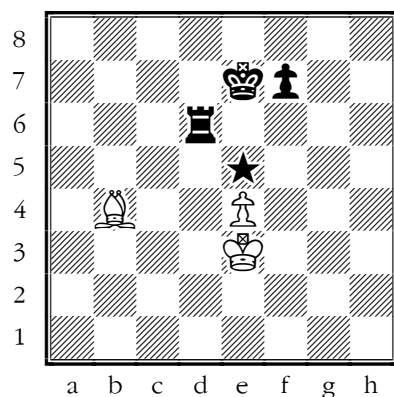
The first type of pin is shown by the b5-Bishop, pinning the c6-Knight to the King on e8. It is an *absolute* pin. Absolute pins occur only when a piece is being pinned to the King. It would be illegal for the Knight to move, which makes an absolute pin the strongest kind of pin to have. The c6-Knight is stuck.

The second type of pin from our first diagram is known as a *relative* pin. The Bishop on g3 is pinned because it would never consider moving if it meant the Queen on g8 would be captured by the Rook on g1. However, we have now added a White King on c1 to display that if the g3-Bishop was able to move for something more important than the Queen on g8 (in this case, a check to the King) then the Bishop could move.

Essential Question, Level I: Knowledge

How would you explain a relative pin to a newcomer to chess? Specific to this position, where can the Black Bishop go to break the relative pin by the Rook and not lose the Queen on g8?

Ganging up on the pinned piece (absolute)—the key to winning pinned pieces.



*Look to "gang up"
on pinned pieces.*

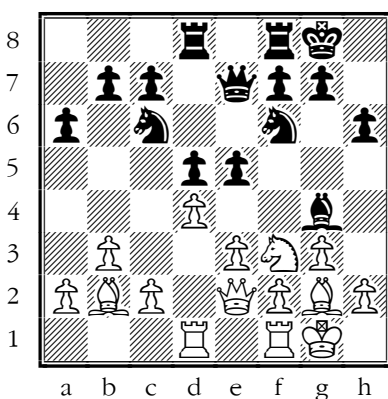
Now that we understand the different types of pins, let's talk about what makes a pin successful. A pinned piece is, well, pinned! It can't move (especially absolutely pinned pieces, and it would be bad to move most relatively pinned pieces as well). So don't ever take a pinned piece without first considering how you might be able to bring more pieces to attack it.

Here, the Bishop on b4 is pinning the Rook on d6. White could easily capture it and be happy with that trade, considering that White would be giving up a Bishop for a Rook. But is there another way to gang up on the pinned Rook? 1.e5!, attacks the Rook a second time, and therefore wins material after 1...Ke6 2.exd6! (Note that White would not want to play 2.Bxd6 because after 2...f6, Black is able to trade off White's last Pawn and head to a drawn Endgame.)

Essential Question, Level I: Knowledge

Can you name the two pieces White is using to gang up on the pinned Rook, and explain why it is important that White use both those pieces?

Ganging up on the pinned piece (relative)—the key to winning pinned pieces.



*Black played 1...e4!,
attacking the pinned f3-
Knight and winning it.*

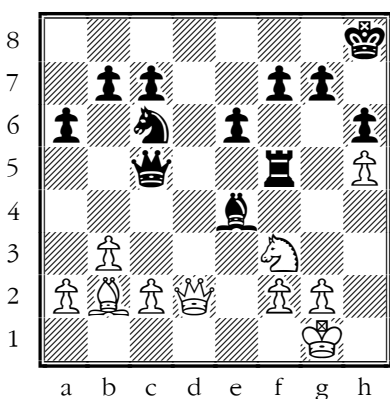
Here we have another simple example showing how easy it can be to win a pinned piece if you gang up on it before capturing it. Our second example shows a Pawn doing the “gang up” work. Since they are worth the least amount of points, the easiest way to make sure you win the “doggy-pile” is to capture with a Pawn first.

Of course, you can also gang up on pinned pieces with other pieces. You can imagine, and will see in some of the Practice Pages, that as long as the piece stays pinned, everyone is welcome to join the “gang-up-and-attack-the-pinned-piece” party.

Essential Question, Level I: Knowledge

Take a deep look at the position. Even if White’s Queen were not on e2, would 1...e4 by Black still have a chance of winning material? Explain why or why not.

Using the pin against your opponent—the “other way” to exploit a pin.



The b2-Bishop may be far away, but it serves a mighty purpose here.

The other major negative point of having pinned pieces is that they aren't really defending their teammates. Even when they seemingly guard pieces, when push comes to shove, a pinned piece is crippled by the piece behind it. We are learning that besides ganging up on pinned pieces, we should also look to see if they are guarding anything important—and if so, take it!

In this example game, White had just sacrificed a Rook on h8, forcing the Black King to a most undesirable square. White can now play 1.Qxh6+!, exposing the g7-Pawn for what it really is: a pinned piece. After 1...Kg8 2.Qxg7 is checkmate. Because Bishops, Rooks, and Queens operate on long lines, tactics like this occur often in games.

Essential Question, Level I: Knowledge

What is the purpose of the b2-Bishop in this position as it relates to the tactic played by the White Queen?

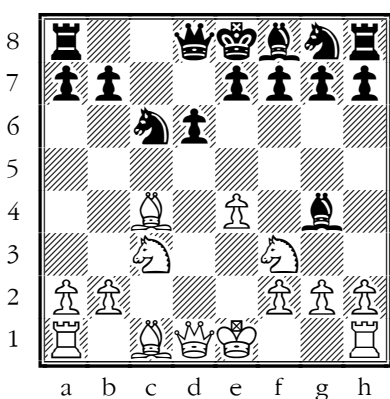
Part 2: Breaking the Pin

Key Concepts

- The problem with a relative pin.
- Learning to break a pin.

Because it isn't necessarily illegal to move a relatively pinned piece (even if it's pinned to the Queen), one should always be wary of a pin on the enemy piece turning into a tactic for the opponent. A broken pin instantly becomes a discovered attack (Lesson 11) for the opponent.

Breaking the pin: the problem with relative pins.



White to play and win.

Look for a forcing way to break the pin on f3.

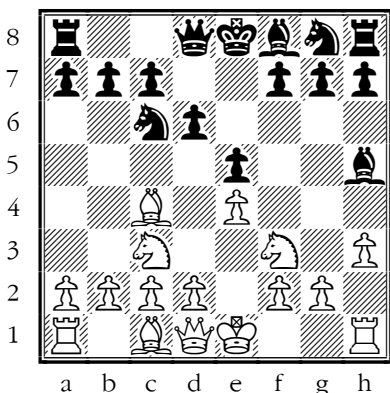
Here, we see a classic example of a broken relative pin from the Smith Morra Gambit (an Opening variation in the Sicilian Defense). In this example, Black has just played the move 6...Bg4?, which is a common blunder. Though it pins the Knight on f3, the Bishop on g4 lacks protection, and the results are devastating!

White now plays 7.Bxf7+!, temporarily sacrificing the Bishop for a discovered check after 7...Kxf7 8.Ng5+! Ke8 and 9.Qxg4, White wins back the Bishop, remains ahead a Pawn, and most important, has lost the right to castle the King.

Essential Question, Level II: Comprehension

Knowing that White's combination with 7.Bxf7+ was good, can you suggest a better developing move, other than 6...Bg4? Explain your suggestion.

Legal's Mate: the world's most infamous broken pin.



*The Philidor's Opening
moves: 1.e4 e5 2.Nf3 d6
3.Nc3 Nc6 4.Bc4 Bg4 5.h3
and 5...Bh5.*

Here, White is in a good position, with a small lead in development (find the Opening beneath the diagram). Black took big a risk when he decided to pin the f3-Knight, knowing the Bishop had no protection. Combining the ideas of a discovered attack (Lesson 11), breaking the pin, and targeting Black's weakest square (Lesson 7), what tactic does White have in this position?

6.Nxe5!! wins immediately: 6...Bxd1 7.Bxf7+ Ke7 8.Nd5 checkmate (if 6...Nxe5 7.Qxh5 Nxc4 8.Qb5+, White wins back the material and remains ahead by a Pawn, with a huge lead in development). It's amazing that White can sacrifice such a large amount of material by breaking the pin on the f3-Knight, but the reward is clearly worth it. Remember the pattern of these last two tactics.

Essential Question, Level II: Comprehension

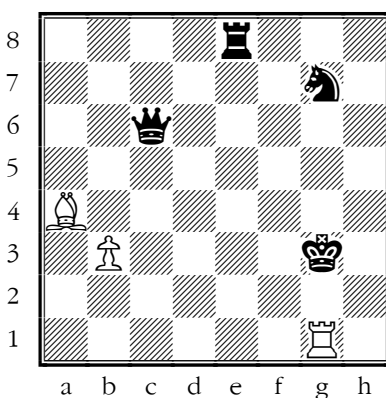
Can you see common themes from the last two diagrams illustrating broken pins?

Part 3: Winning Chess Tactics: Learning to Skewer

Key Concepts

- What is a skewer?
- Skewering is the opposite of pinning.

Introducing the “anti-pin”: the skewer.



Black is being skewered twice in this made-up, but instructive, position.

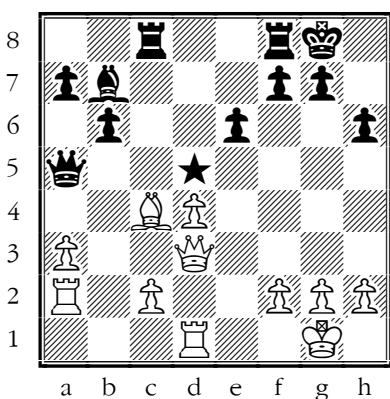
A skewer is the opposite of a pin, and in many ways, a much more forceful tactic. With a pin, the lesser-valued piece is in front, shielding the more valuable piece from capture. The pinned piece doesn't want to move, but it often doesn't have to, either! Because of that point, it usually requires more attackers to exploit and possibly win the pinned piece.

With a skewer, however, the better piece is the one being attacked, so it must either sacrifice itself or move aside, allowing an undefended or less valued teammate to be captured. In our diagrammed example, the Bishop on a4 is skewering the Queen and Rook, which works because the Bishop would be happy to capture the Rook even at the cost of losing itself, while the Rook on g1 is skewering the King and Knight along the g-file.

Essential Question, Level I: Knowledge

Can you tell in your own words why a skewer is more forceful than a pin? For extra credit, can you set up your own skewer tactic on the chess board?

More introductions: the skewer in action and making good things happen.



This famous skewer is a common tactical pattern.

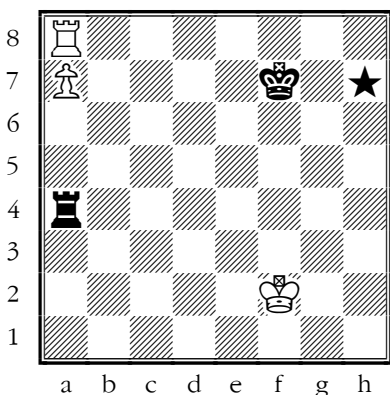
Like the pin, the skewer is a straight-line tactic (only possible along ranks, files, and diagonals) and so is executed only by the Queen, Rooks, and Bishops. The skewer happens most often in open-board positions (like our example here), and is most effective when the opponent's pieces are loose, or undefended.

Here, Black recognized the chance for a skewer tactic due to the awkward position of the White Rook on a2. Black played 1...Rxc4!, forcing 2.Qxc4 and then 2...Bd5!, skewering the Queen and Rook and coming out ahead a minor piece at the end of the combination.

Essential Question, Level II: Comprehension

What is the main issue with White's position here that allows Black's tactic to work? Suggest how you would have changed White's position to stop the tactic.

The "Back Door" skewer: an infamous Rook ending tactic.



White skewers via the "back door" on h7.

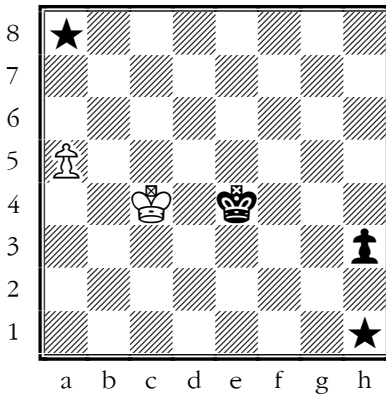
When you think of a skewer, think of a backyard barbeque. Skewers are used to spear multiple pieces of meat and vegetables for a tasty grilled treat. A skewer tactic cuts through enemy pieces in a similar fashion.

Our next tasty skewer comes at the expense of the Black King and Rook. This common tactical idea occurs as the climax of many Rook ending puzzles. We have jumped to the end of the position to display the trick clearly: White plays 1.Rh8!, freeing the a8-square and threatening to Queen the Pawn. Black must capture a7 to avoid this, and White wins with 2.Rh7+, skewering the King and Rook.

Essential Question, Level II: Comprehension

What is meant by "back door" skewer? Explain in your own words.

More famous Endgame skewers: the Double Promotion Queen skewer!



Whenever the King is lined up on the same file or diagonal as your passed Pawn, watch out.

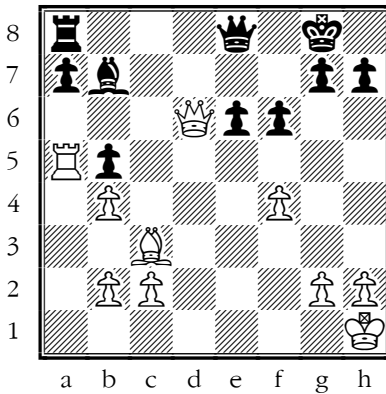
The full combination is slightly more complex. You may recognize this tactic from the movie "Searching for Bobby Fischer," but the end result of this puzzle is right up our alley. Both sides are going to promote their Pawns, but the White player gets the upper hand in the end by promoting the Pawn with check, instantly skewering the King and Queen along the longest diagonal of the board, the h1-a8 diagonal.

1.a6 h2 2.a7 h1=Queen 3.a8=Queen+, Black King moves anywhere, 4.Qxh1 winning. Note that the moves were all forced, because if Black tried to avoid this skewer by moving the King in advance, White's promoted Queen would prevent Black from promoting by guarding h1 along the diagonal. Watch out for this idea!

Essential Question, Level III: Application

What examples can you find to show why the skewer tactic only works when the more valuable piece is the one being attacked and forced to move, unlike the pin tactic?

Skewering to a square, rather than a piece.



Skewer pieces to weaknesses; it works.

Hopefully the concept of skewering pieces to other pieces has been made clear with our examples. You can also skewer pieces to important squares, such as a threat of checkmate; our final example reveals exactly that.

There may be several types of important squares worth a skewer, but a back-rank checkmate threat has to be right at the top of the list. Here Black plays 1...Rd8!, skewering the Queen on d6 to the d1-square. White's Queen has no way of retreat that successfully guards the back rank, and must settle on 2.Qc5 Rd1+ 3.Qg1 Rxd1, where Black's material advantage is enough to win the game.

Essential Question, Level III: Application

Can you explain in your own words why it doesn't matter if you're skewering a piece to another piece, or skewering a piece to a square, as long as what's behind the piece attacked is valuable?

Lesson 10 Summary and Linking Content to Standards

In Lesson 10, students learned two of the most deadly tactics that occur in a chess game: pins and skewers. Each of these tactics enables students to restrict enemy pieces and their options with the threat of capture and of winning material. This lesson aligns to the K-5 Common Core State Standards (CCSS) for English Language Arts: Speaking and Listening, Literacy, and also applies Geometry, Counting concepts (for 1st-2nd grades), as well as Number names and the count sequence for grades 1-2, by emphasizing a player's piece cohesion and sequences of moves that result in a benefit. Advancing tactical skills prepares students to fight with each of their pieces, and helps them develop advantages over more skilled opponents.

Students saw examples of both relative and absolute pins, as well as ways to break the pin when their opponents use this tactic against them. Students saw several examples of successful pins resulting in big material gains. Additionally, students learned about skewers, also known as “anti-pins,” and how to use these tactical ideas in their own games.

Students are now able to use pieces cohesively to prohibit the movement of enemy pieces and restrict their opponent's ideas—skills that tie directly to Speaking and Listening Assessment of the Partnership for Assessment of Readiness for College and Careers PARCC Assessment (ELA/Literacy component). This is an indicator of students' ability to express their thoughts and ideas, as well as listen to and comprehend the ideas, thoughts, and feelings of others.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

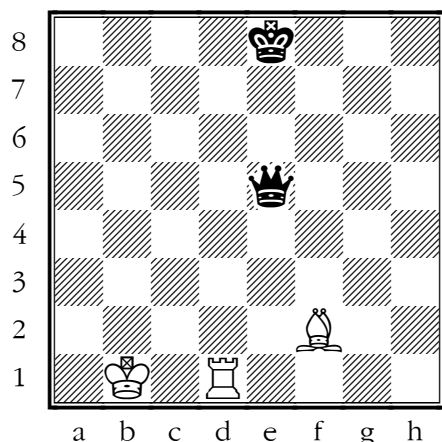
How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Practice Pages

Practice 1: Pin 'em and skewer 'em!

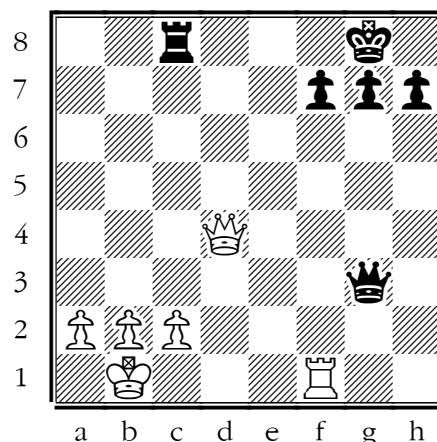
The diagrams below show opportunities for White to either pin or skewer Black.

*Circle the piece that can perform the tactic;
then circle which type of tactic it is.*



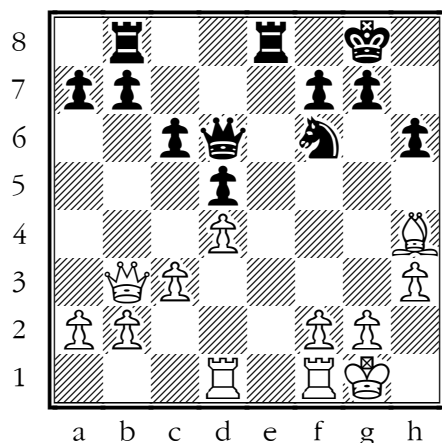
Circle the correct answer:

Pin Skewer



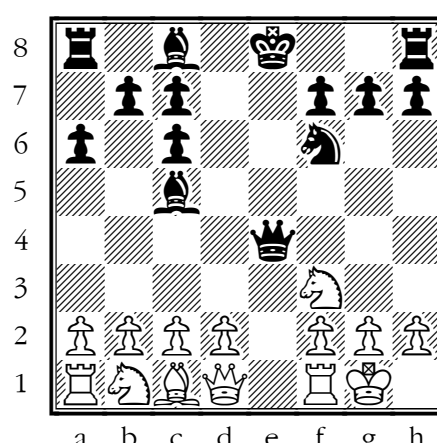
Circle the correct answer:

Pin Skewer



Circle the correct answer:

Pin Skewer



Circle the correct answer:

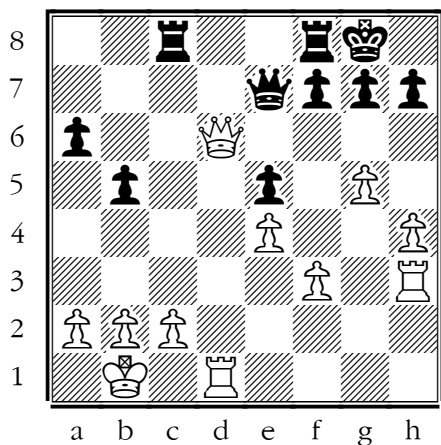
Pin Skewer

Practice 2: Pin 'em and skewer 'em!

The diagrams below show opportunities for White to either pin or skewer Black.

Circle the piece that can perform the tactic;

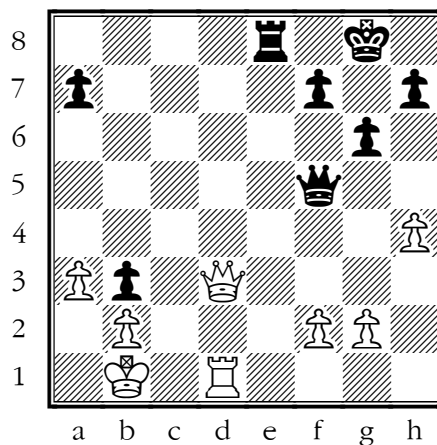
then circle which type of tactic it is.



Circle the correct answer:

Pin

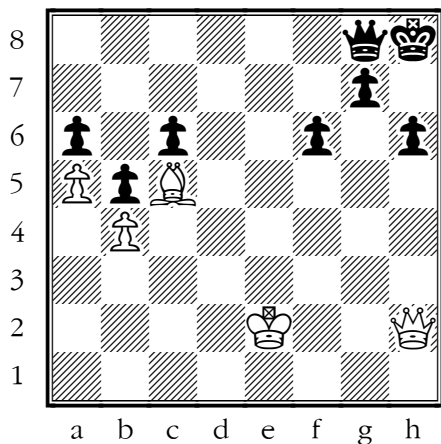
Skewer



Circle the correct answer:

Pin

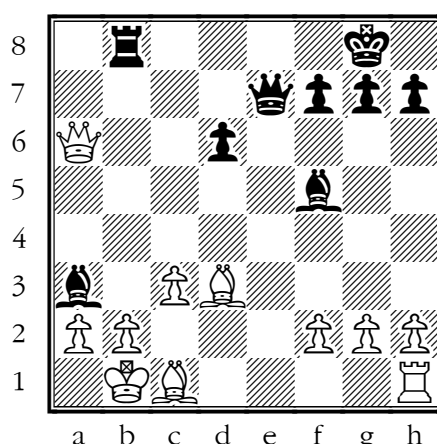
Skewer



Circle the correct answer:

Pin

Skewer



Circle the correct answer:

Pin

Skewer

Answer Key

Practice Page 1: Pin 'em and skewer 'em!

Diagram #1 1.Re1! – Pinning the Black Queen to the King. Circle the d1-Rook. Circle pin.

Diagram #2 1.Bg3! – Skewering the Queen and Rook. Circle the h4-Bishop. Circle skewer.

Diagram #3 1.Rg1! – Skewering the Queen and the g7-Pawn (threat of the White Queen capturing the g7-Pawn, checkmate). Circle the f1-Rook. Circle skewer.

Diagram #4 1.Re1! – Pinning the Black Queen to the King. Circle the f1-Rook. Circle pin.

Practice Page 2: Pin 'em and skewer 'em!

Diagram #1 1...Rfd8! or 1...Rcd8! – Skewering the Queen and Rook on d1. Capturing on d1 will also lead to immediate back rank checkmate. Circle either Black Rook. Circle skewer.

Diagram #2 1...Qa2+! – Skewering the King and Queen. Circle the Queen. Circle skewer.

Diagram #3 1...Rd8! – Skewering the Queen and the d1-Rook. Capturing on d1 will also lead to immediate checkmate. NOTE: This tactic also uses a pin. White's d3-Queen is pinned along the b1-h7 diagonal by Black's Queen, which makes 1...Rd8 possible. Circle the e8-Rook. Circle both pin and skewer.

Diagram #4 1.Qe2!! – Pinning the d3-Bishop to the White Queen on a6. NOTE: This is a “double pin” tactic. The d3-Bishop is pinned along two diagonals: The b1-h7 diagonal and the f1-a6 diagonal. Circle the Black Queen. Circle pin.

Classroom Activities

Activity 1: Pesky pin problems

Activity goal:	Activity Goal: Creating both absolute and relative pins with different pieces, reinforcing that successful tactical strategy will lead to material gains; exposing students to these ideas so that they are able to utilize them in their own games. (Parts 1 - 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Craft and structure:	CCSS.ELA-Literacy.R.1.4 (K-1)
Geometry:	Math. Content. G.A.1 (K-5)
Range of reading and level of text complexity:	CCSS.ELA-Literacy.R1.(K-4)
Phonics and recognition:	ELA-Literacy.RF.1.3 and 2.3 (1-2)
Vocabulary acquisition and use:	CCSS.ELA-Literacy.L.2.4 and 2.6 (2-5)

Instructions

- On the demo board, review relative and absolute pins. Use examples from the lesson, or from our instructive articles on tactics found at ChessKid.com/articles.
- Set up empty boards with full sets of pieces next to them and pair off students.
- While students are working together, the coach/teacher should call out a type of pin they want the students to try to set up—e.g., an absolute pin using the White Bishop, a relative pin using the Black Queen, etc.
- Have each student explain why the position he or she has set up is the correct type of pin.

Additionally, students may be assigned a limited amount of time to perform this activity, and can be timed using a chess clock (e.g., one minute or 30 seconds per puzzle).

Activity 2: Name that tactic

Activity goal:	Understanding what pins and skewers look like in a practical game setting; reinforcing that successful tactical strategy leads to material gains that can turn an equal position into a winning game; exposing students to these ideas so they are able to utilize them in their own games. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Vocabulary acquisition and use:	CCSS.ELA-Literacy.L.2.4 and 2.6 (2-5)

Instructions

- Set up boards and sets and pair off students.
- Have students begin a normal chess game.
- Any time a student notices a pin or a skewer in a game, have the student raise a hand and explain the tactic.
- At the completion of all games, review with the entire group the successful pins and skewers that were commonly used by the students, as well as any potential missed tactical sequences you might have observed.

Coach teacher can award small prizes to students who successfully complete the most pins and skewers, have the best explanations of their tactics, etc.

Activity 3: Scintillating skewers

Activity goal:	Identifying what skewers look like in various positions; reinforcing that successful tactical strategy leads to material gains that can result in winning positions; exposing students to these ideas so that they are able to utilize them in their own games. (Part 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math. Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Vocabulary acquisition and use:	CCSS.ELA-Literacy.L.2.4 and 2.6 (2-5)

Instructions

- Set up and review the position from Lesson 6, Part 2, Diagram 4, on a demo board. (White's pieces – Ra5, Kc1, Pc2, Pg2, Bh5; Black's pieces – Qg8, Kc6, a4, g7, h6)
- Have students set up the same position on their boards. Two students can work together at the same time and on the same side of the board.
- Play White's next move on the demo board: Ra8. Have students play this move as well.
- Now, have students name all the skewers (and pins) resulting from all the Black Queen moves, following along with the coach/teacher. For instance, if coach/teacher plays the Black move Qe6, then students have to find Ra6+ on their boards.
- Go through each of Black's potential moves one at a time, having students copy your move and then look for the tactical idea in the position. (Black's moves Qa2 and Qh7 are the hardest, and should be saved until the end. The answer to Qa2 is that White plays Rxa4, and Black cannot capture the Rook on a4 with the Queen without allowing the Be8+ skewer. Qh7 is met by Bg6, and after the Black Queen is forced to capture because she is trapped, White skewers again with Ra6+).

Coach/teacher can award small prizes to students who successfully name a skewer (or play a pin and identify it).

LESSON 11

Lesson 11: Chess Tactics —Discovered Attacks and Double Checks



Overview

Lesson 11 emphasizes some of the trickiest and most fun tactics in chess: discovered attacks and double checks. Discovered attacks are the deadliest type of double attack. Double checks are a type of double attack that put the enemy King in a lot of danger while also putting other pieces in his army at risk. These tactical sequences are often used to win material or even end the game in checkmate. This lesson underlines which pieces can participate in these types of tactics, as well as the effective strategy behind using them.

Part 1 highlights the effectiveness of discovered attacks when your opponent is trying to “copy cat” you. It underlines the strongest discovered attack pattern: the windmill. Part 1 also emphasizes defenses to some of these devastating ideas, should a player ever be faced with them by an opponent. Part 2 provides students with even more examples of these tactical ideas, including the mating net known as the Venus Fly Trap. It also introduces the double check and how it can be used to put the enemy King into thorny situations.

The Practice Pages and Classroom Activities encourage mastery of these less common but still important tactical ideas. Students will now have increased critical thinking skills and abilities to visualize the best squares and ideas for their pieces to execute these powerful tactics. This is in alignment with Common Core State Standards (CCSS): Geometry and ELA: Literacy: Speaking and Listening. Students are now playing complete chess games that include thoughtful strategy and core chess principles throughout all stages of the game.

Teacher's Guide

Discoveries are some of the most powerful moves possible in a chess game. Knowledge of these patterns is critical for understanding chess tactics, and will take players to the next level in terms of tactical vision and awareness.

Lesson 11 has been organized in the recommended order a student should learn these concepts. Starting with the most basic discovery (the discovered attack) and then moving onto discovered check, and eventually learning double check, will help students develop their vision of the board and their ability to identify simple checks and complex combinations. It is easiest to teach students the concept of a discovered attack first, as it is nothing more than a “tricky version” of a double attack (Lesson 9).

In Part 2 of this lesson, we also introduce the tactical theme of *attraction*. Attraction is a slightly more complicated theme compared to the other fundamental tactical motifs covered here; we do not go into this concept too deeply, so as to avoid confusing beginners. There will be further examples of attraction tactics in later lessons. As suggested in the Lesson 10 Teacher's Guide, it is highly advisable for every chess coach to have a good collection of tactics puzzles (via the coach's own resources) on hand for their students to utilize and practice, or to assign regular puzzle solving via the ChessKid.com website.

Practical Notes and Advice—Lesson 11

- Reinforcement of tactical patterns is 100% necessary for students. Having your students practice puzzles on ChessKid.com is the best way to reinforce tactics.
- Consider reviewing each “discovered attack diagram” in the Practice Pages as a group. You can do this on a demo board.
- If possible, read ahead and challenge your students, approaching each diagram through the lesson as a puzzle first (like the website), and reviewing the content after at least one attempt at solving each problem.
- You will find a number of highly entertaining video lessons to accompany this particular tactical theme in our video library at Chesskid.com/videos, should you need further support in reviewing the various topics that have been taught in previous lessons.
- Using fun word associations for each type of discovered attack can help your students commit these concepts to memory. For example, you may notice we use terms such as “devious,” “devastating,” “dynamic,” and other adjectives to refer to the different discovered attacks/checks in this lesson. This is also a great opportunity to align the chess curriculum with other CCSS requirements.



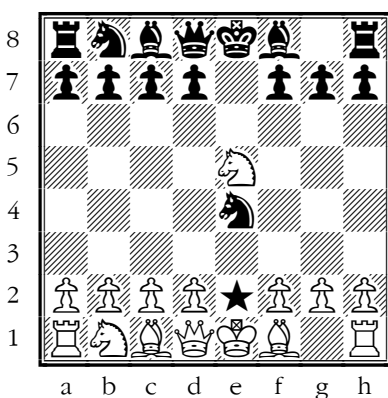
Lesson 11

Part 1: Discovering Discovered Attacks in Chess

Key Concepts

- What is a discovered attack?
- The most powerful kind of attack: the “discovered check.”
- Why the “copycat” Opening never works.

Introducing the discovered attack/check, and exploring why you should never “copycat.”



1.e4 e5
2.Nf3 Nf6
3.Nxe5 Nxe4?
And 4.Qe2!

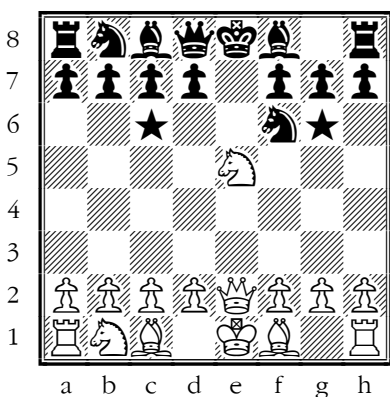
The term *discovery*, or discovered attack, is used when a piece moves from a rank, file, or diagonal, and uncovers an attacking piece of the same color (a teammate) along that line. There are three types of discoveries; the most powerful is the *double check* (discussed in Part 2). Discovered check and attack are covered here.

To get our discovery party started, we review a bad Opening which is commonly played at the beginner level: the Copy Cat. Black's third move (under the diagram) needs to be 3...d6, which would be the Petroff Defense, a solid non-copy-cat variation. However, the move played—3...Nxe4—loses. (Continued...)

Essential Question, Level I: Knowledge

Where will the discovered attack/check happen in this diagram?

The Copy Cat Opening continued: the devastating discovered check!



The Knight does the attacking, but the Queen does the checking.

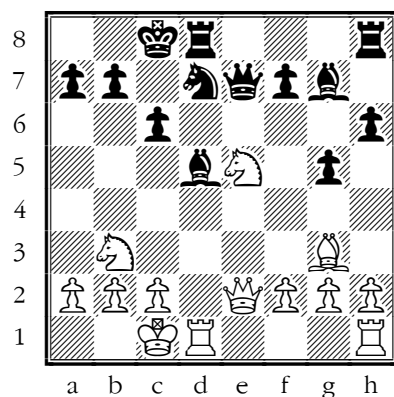
After 4.Qe2 Black can no longer continue to copy with 4...Qe7, as after 5.Qxe4, if Black captures White's Knight, Black will lose the Queen for nothing. Defending the Knight on e4 with a move like 4...d5 invites 5.d3, and Black still has major issues to deal with. Most players at the beginner level will retreat the Knight from e4, walking into a trap.

White now has two devious discovered checks to choose from. The Knight can actually move anywhere from e5, and Black must first deal with the check coming from the Queen on e2. In positions with discovered checks, a player should look for the most aggressive landing square for the piece in front of the line (file, in this case). Both 5.Ng6!+, winning the Rook on h8, and 5.Nc6!+, winning the Queen, are good.

Essential Question, Level I: Knowledge

How would you explain the concept of a discovered check to a beginner—namely, that the piece moving is not always the piece that is giving check.

The discovered attack: the most powerful kind of double attack in chess.



By recognizing which of Black's pieces are vulnerable, White is able to play a crushing tactic.

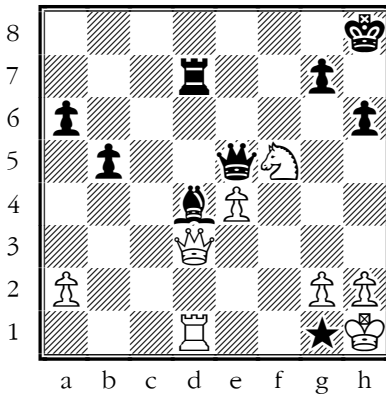
A discovered attack is the same as discovered check, except the enemy king is not directly involved in the attacking move. Because there is no check involved, any effective discovered attack must also be a double attack of some kind. In this case, White plays a discovery that attacks both Black's undefended Queen on e7 and threatens checkmate in one move!

1.Nxc6!! wins immediately. White unleashes a devastating discovered threat on Black's Queen (White's Queen on e2 is threatening to capture it) and also threatens to capture 2.Nxa7 checkmate. If 1...Qxe2 2.Nxa7# and if 1...xc6 2.Qxe7 wins enough material to take the game home!

Essential Question, Level I: Knowledge

In your own words, explain why a double attack is better than a single attack, especially when used as part of a discovered attack tactic.

The discovered attack continued: unleash less valuable attacking pieces.



Think on how Black can attack two things at once, before reading the answer.

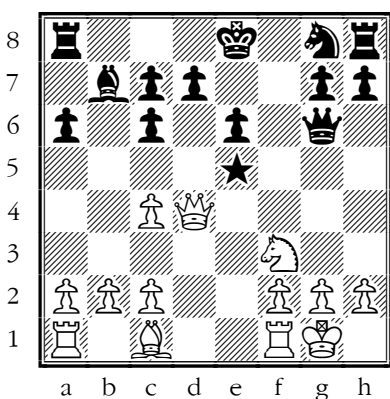
One of the key components that made our last discovery so effective was that the Black Queen on e7 was undefended and vulnerable. If the Queen had defense from one of her teammates, the Queen on e2 would have only been trading, thus making a Knight sacrifice on c6 useless. In cases where the piece under attack is defended, the key is to attack with a lesser-valued piece. Take this diagram, for example:

Black wins with the discovered attack 1...Bg1!! This move threatens 2...Qxh2 checkmate, and unveils an attack from the d7-Rook to the White Queen. Note that the power of this attack is based on the trade of both the g1-Bishop and the d7-Rook, which is better than White's Queen. After 2.Kxg1 Rxd3 3.Rxd3 Qa1+ and captures the a2-Pawn, Black is winning, because the Queen is easily more valuable than White's Rook and Knight.

Essential Question, Level I: Knowledge

If you could change something about White's position to prevent the devastating discovered attack of Bg1, what would you change?

Defending against discovered attacks and checks: always be careful.



1.c5! blocks the Bishop on b7 from the game.

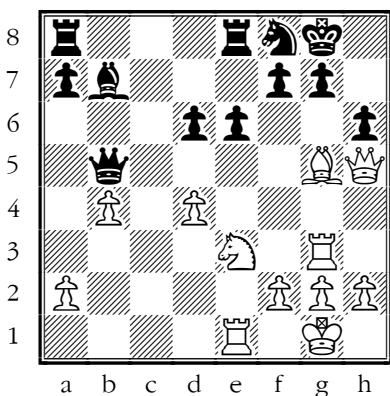
It is the nature of a discovery tactic to come with some element of surprise; therefore, it is an easy idea to overlook. In this position, White has the obvious shot of 1.Ne5, forking the Queen on g6 and the d7-Pawn. It seems that this tactic should be played without any further consideration, right? Wrong! Black has a tricky defense.

1.Ne5? is met by 1...Qxg2! + 2.Kxg2 c5+, winning back the Queen and remaining ahead by a Pawn. Having a defensive eye for a possible shot like this from your opponent is a good idea. White would have maintained a clearly better position with the move 1.c5! followed by Ne5.

Essential Question, Level I: Knowledge

Applying what you've learned about thinking before you move, how should White have been thinking in order to have avoided overlooking Black's tactic on g2?

The most powerful discovered check: the Windmill Tactic.



*This famous game: 1-0
Torre, C. - Lasker, E.
Moscow 1925*

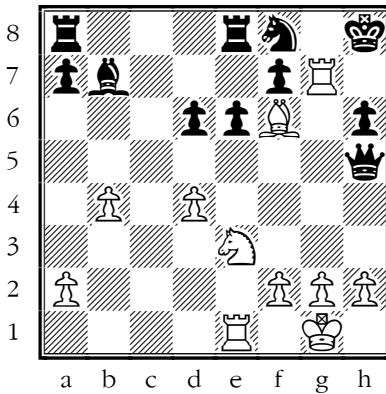
Another famous "broken pin" not mentioned in Lesson 10 would be from this game, played by two of the greatest players of the early 20th century. Former world champion Emanuel Lasker had played the move ...h6 to attack the "pinned" Bishop on g5. Moving the Bishop would allow the Queen on h5 to be captured free of charge.

As mentioned in Lesson 10, broken pins can potentially turn into powerful discovered attacks. Recognize this potential in your own games! Here White plays the move 25.Bf6!!, sacrificing the Queen to execute a combination based on the most crushing type of discovered check: the Windmill. After 25...Qxh5 26.Rxg7+ Kh8 (Continued...)

Essential Question, Level : Knowledge

In this diagram, what is White's predicament that forces his hand to find the great move, 25.Bf6!!?

The windmill check continues... and continues... keeps going... and going!



The windmill in action.

In this position, Black is now at White's mercy. White could move the Rook anywhere (other than g8 or h7, which would lose the Rook) and the Bishop on f6 gives check to the King. Even more important, this pattern can be repeated until White decides otherwise. Rook moves, King takes whichever square he legally can (either g8 or h7), the Rook goes back, and we "rinse and repeat!"

Torre had already foreseen the most accurate way to win material via this "windmill attack," and he proceeded with 27.Rxf7+ Kg8 28.Rg7+ Kh8 29.Rxb7+ Kg8 30. Rg7+ Kh8 and 31.Rg5+, winning back the Queen (and eventually the game) after 31...Kh7 32.Rxh5 Kg6 33.Rh3 Kxf6 34.Rxh6+.

Essential Question, Level I: Knowledge

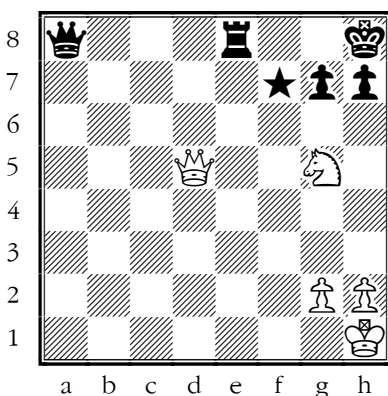
How can you demonstrate your knowledge of the windmill attack over the board against an opponent, and how would you explain why the windmill is so powerful to a newcomer to chess?

Part 2: More Discovered Attacks and Double Checks

Key Concepts

- The most powerful check and the King's worst enemy: the double check.
- The Venus Fly Trap mating net.
- Using discovered check and double check in practical games.

The complete Venus Fly Trap: a double-check mating net



After 1...Kg8, White must play forcing moves.

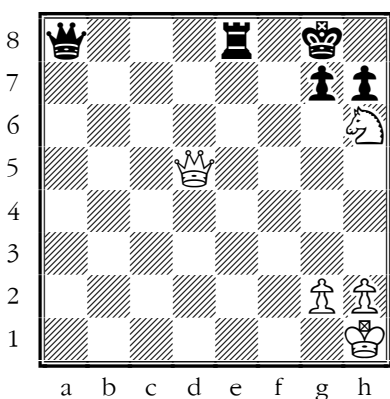
In its most simple form, the Venus Fly Trap mating net (also referenced in Lesson 7) looks like our first diagram here; however, this mating pattern can occur in a number of different forms, so learn it well! It all starts with 1.Nf7+ by White, forcing the response 1...Kg8.

Now White seems to be faced with a tough position: the Queen on d5 is under attack, the Knight is attacked by the King, and any passive move might allow ...Re1, delivering a back rank checkmate to the White King. What can White do? Well, as you will learn, the strongest chess move possible in a game is the double check.

Essential Question, Level II: Comprehension

How would you describe the importance of White finding forcing moves, considering his or her own weaknesses in this position?

The Venus Fly Trap continued: the Smothered Checkmate climax.



The Venus Fly Trap is perhaps the most well-known mating pattern based on double check.

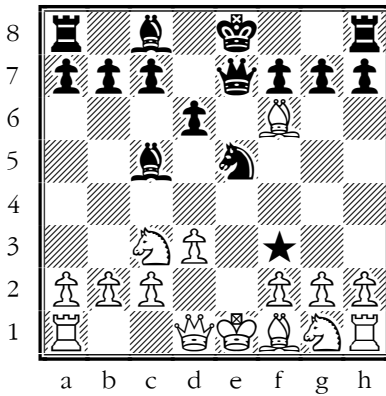
White plays 2.Nh6++ (two plus symbols represent double check in algebraic notation). Now we see a beautiful picture: The Queen on d5 is hanging, the Knight on h6 is also under attack, and if Black could, he or she would not hesitate to deliver check along the first rank. But none of those things are possible when the King is in double check!

The only way out of a double check is for the King to move to safety. Regardless if both the pieces giving check can be captured, there is no way to take both pieces with one move. The Black King must run to safety with 2...Kh8 (2...Kf8 simply allows 3.Qf7#), and now White delivers the final blow: a Queen sacrifice that forces Black to smother his own royal majesty! 3.Qg8+ Rxg8 and 4.Nf7 is checkmate.

Essential Question, Level II: Comprehension

What is meant by a Queen sacrifice in this diagram?
What is happening in the game that causes a Queen sacrifice to occur?

Double check is the King's worst enemy: only he can save himself.



*All the minor pieces
are in the game.*

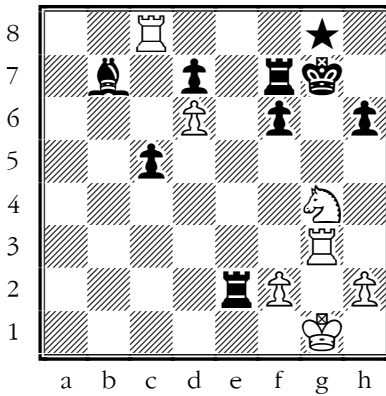
To provide further proof that the double check truly is the King's worst enemy, we move on to a practical example in which the White King finds himself checkmated in the middle of the board (in the Opening, no less) despite the seemingly improbable circumstances that both Black's checking pieces can be captured (one in multiple ways).

Black plays the crushing blow 1...Nf3++, and checkmate. Note that 1...Nxd3++ was also double check, but doesn't measure up because the White King can escape to d2. Despite both the f3-Knight and the e7-Queen being under enemy fire, they are both helping to deliver checkmate!

Essential Question, Level II: Comprehension

What can you say about the King's own power when he needs to save himself against a double check?

Doubled check mating nets, example 1: the Knight and Rook discovery.



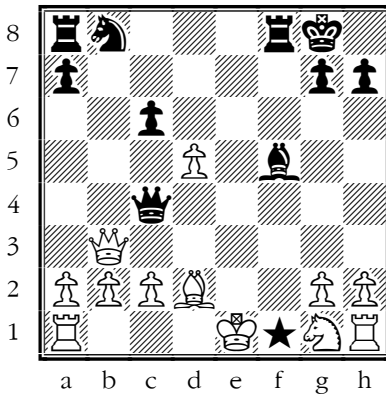
We finish with two well-known puzzles, where a discovered double check leads directly to a forced checkmate. Again, we call these *mating nets* because once the net is thrown against the enemy King, it is normally only a matter of time before the net closes. Here White starts off a mating net attack with 1.Rg8+!!.

After 1...Kxg8 (1...Kh7 allows 2.Nxf6+! Rxf6 3.R3g7 checkmate) 2.Nxf6++ (not 2.Nxh6++ because 2...Kh7 escapes the net, and it is White who now loses) 2...Kh8 or f8 and 3.Rg8# White sacrificed the Rook on g8 in order to force the Black King onto a square that allowed the discovered double check to take place. White's mate in three was totally forced!

Essential Question, Level II: Comprehension

In view of the potential issues of White's position, describe the importance of White finding the double check mate in three combination that he did.

Doubled check mating nets, example 2: the Bishop and Rook discovery.



*No piece is untouchable
when there is a chance for
forced checkmate.*

Our next classic mating is a decisive double check that also involves attracting the enemy King onto the right square. Attraction is the opposite of a deflection tactic (Lesson 12). Whereas deflection and decoys take a piece away from a job it needs to do, attraction is designed to force a piece onto an unfavorable square—like forcing White's King to f1.

Black plays 1...Qf1+!!, sacrificing the Queen for a forced checkmate. After 2.Kxf1 Bd3++, 3.Ke1 Rf1 is checkmate! Hopefully, our examples have revealed just how strong and compelling a double check tactic can be. The final position shows the Rook and Bishop working well together in a common mating pattern. White can do nothing to stop it.

Essential Question, Level II: Comprehension

What are the main ideas behind the attraction tactical theme?

Lesson 11 Summary and Linking Content to Standards

In Lesson 11, students were taught two more tactics to add to their growing tactical repertoires: the discovered attack and the double check. These tactics often lead not only to a gain in material, but usually involve serious threats to the opponent's King. These ideas tie back to Common Core State Standards (CCSS): Geometry (K-5) and ELA: Literacy: Speaking and Listening, by emphasizing a student's ability to use her or his pieces in proper rhythm and coordination—especially coordination, as a double check truly does not work without the cooperation of two or more pieces.

Students built on their knowledge of the opponent's weakest squares and pieces, especially the enemy King and undefended pieces, which may be vulnerable to discovered attacks. Next, they saw examples of some of the most exciting and devastating discovered attacks, like the windmill pattern, which can cause an opponent to lose multiple pieces. Additionally, students learned about double checks, the most forceful discovered attacks, because a double check forces the King to defend himself.

In conclusion, students are now able to use their pieces cohesively to attack both enemy pieces and the enemy King—sometimes both at the same time! The underlying CCSS content this lesson targets sharpens students' ability to demonstrate knowledge and understanding of material through application of skills and modeling, as well as express their ideas with words, verbal responses, and illustrations, as per district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC).

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5

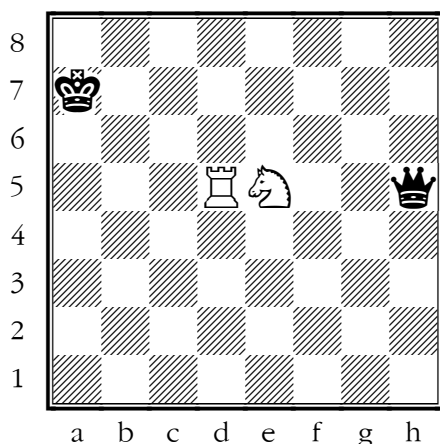
Practice Pages

Practice 1: Use your discovery

Use your newly discovered knowledge.

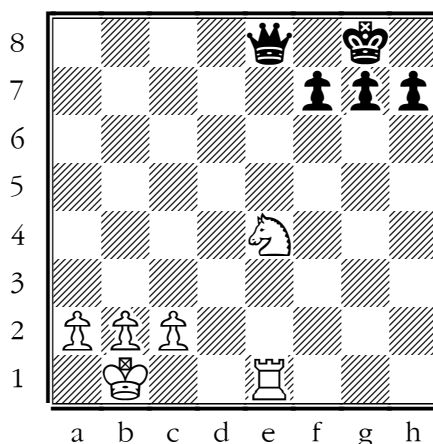
Find the winning discovery in each of the following diagrams.

Circle the piece that should move, and draw an "X" on the square it should move to. BONUS: Write the winning move in algebraic notation to the right of each diagram.



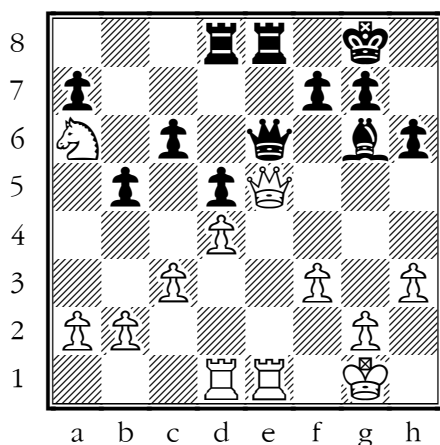
White to play.

Can you find the best discovery?



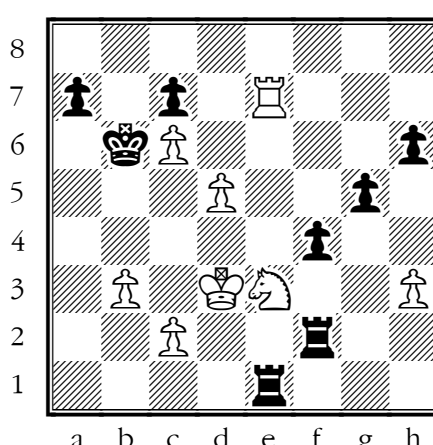
White to play.

Can you find the best discovery?



Black to play.

Can you find the best discovery?



White to play.

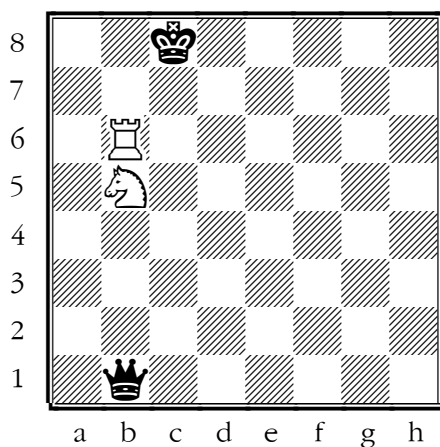
Can you find the best discovery?

Practice 2: Use your discovery

White to play: can White capture any of Black's pieces? *Circle Yes or No.*

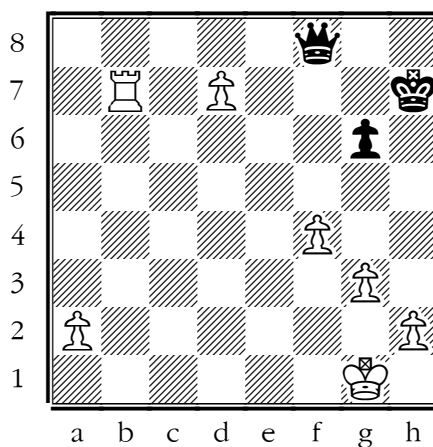
If "Yes," circle every piece that can be captured.

Circle the White piece that can make *your favorite* capture.



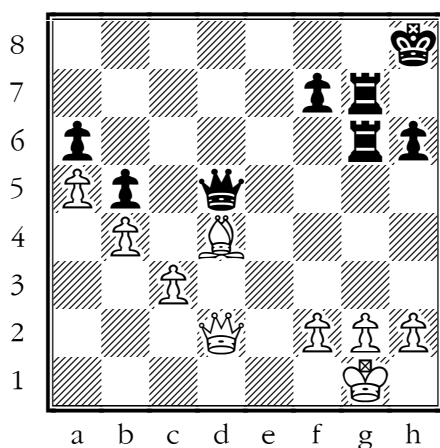
White to play.

Can you find the best discovery?



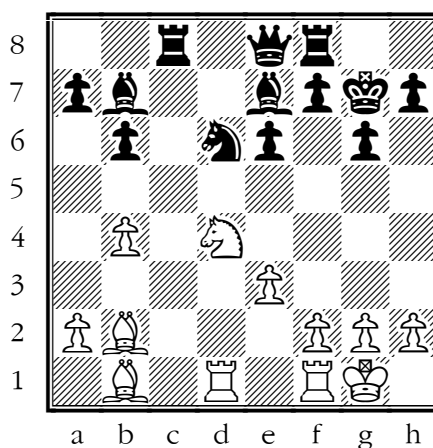
White to play.

Can you find the best discovery?



White to play.

Can you find the best discovery?



White to play.

Can you find the best discovery?

Answer Key

Practice Page 1: Use your discovery.

Diagram #1 1.Nc6+! wins the Queen on h5. Circle the Knight. Circle the c6 square.

Diagram #2 1...Qc8! wins the Knight on a6 because of the discovered attack on the Black Queen by the White Rook on e8. Circle the Black Queen. Circle the c8 square.

Diagram #3 1.Nf6+! Wins the Queen on e8. Circle the Knight. Circle the f6 square.

Diagram #4 1.Nc4+! wins the Rook on e1 because of the discovered attack by the White Rook on e7. Circle the Knight. Circle the c4 square.

Practice Page 2: Use your discovery.

Diagram #1 1.Na7+ or 1.Nd6+ win the Queen on b1. Circle the Knight. Circle the a7 and/or d6 squares.

Diagram #2 1.Bxg7+! wins the Black Queen on d5. Circle the Bishop. Circle the g7 Rook.

Diagram #3 1.d8=Queen+ wins. White is promoting the Pawn to a Queen and unleashing a discovered check by the Rook on b7. Circle the d7-Pawn. Circle the d8 square.

Diagram #4 1.Nf5++! is forced checkmate in two moves after 1...Kg8 2.Nh6 checkmate. Circle the Knight. Circle the f5 square.

Classroom Activities

Activity 1: Discover double trouble.

Activity goal:	Creating both discovered attacks and double checks with different pieces; reinforcing that successful tactical strategy leads to material gains; exposing students to these ideas so that they are able to utilize them in their own games. (Parts 1 – 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)

Instructions

- First, review a few examples of discovered attacks and double checks from Lesson 11 on a demo board (or from our puzzles database on ChessKid.com).
- Set up empty boards with full sets of pieces next to them and pair off students.
- While students are working together, the coach/teacher should call out a type of tactic students try to set up.
- Have each student explain why the position is the type of discovered attack or double check.

As review, coach/teacher can also throw in other tactics for the students to create puzzles with, such as pins, forks, double attacks, and skewers.

Additionally, students may be assigned a limited amount of time to perform this activity, and timed using a chess clock.

Activity 2: How many can you find?

Activity goal:	Recognizing both discovered attacks and double checks in a typical game setting; checking basic understanding of complicated tactical ideas by each student; reinforcing that successful tactical strategy leads to material gains. (Parts 1 - 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)

Instructions

- Set up boards and sets and pair off students.
- Have each student begin a normal chess game.
- Any time a student notices a discovered attack or a double check in their game, have her or him show you the tactic and explain what type of tactic that it is. Students earn one point for showing you the tactic and one point for a correct explanation of that tactic.

Coach/teacher can award small prizes for to the students who earn the most points throughout the exercise.

Activity 3: How fast can you go?

Activity goal:	Recognizing both discovered attacks and double checks in a typical game setting; checking basic understanding of complicated tactical ideas by each student; reinforcing that successful tactical strategy leads to material gains. (Parts 1 - 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS: Math. Content. G.A.1 (K-5)

Instructions

- Set up boards and sets and pair off students.
- Students should work together in a team and sit on the same side of the board.
- Students must try to create the shortest game possible that ends in discovered check. Tell students all moves must be legal, but not necessarily good.
- Students likely won't find the shortest game possible, but the process of creating them will help teach the ideas. For the teacher, the correct answer is: 1. f3 e5 2. Kf2 h5 3. Kg3 h4+ 4. Kg4 d5#.
- At the end, the coach/teacher can show all the games the students created to the class as a group.

Coach/teacher can award small prizes for to the students who successfully create a game in less than a certain number of moves, and a larger prize for the students who create the quickest game.

LESSON 12

Lesson12: Chess Tactics —Deflect, Destroy, and Remove



Overview

Lesson 12 of our curriculum focuses on the more nuanced tactics (when compared to pins, forks, and skewers): deflections, decoys, and removing the defender. These tactical ideas are often used by strong chess players to distract pieces near the opponent's King, and force variations that end in a big gain of material or checkmate. This lesson highlights effective strategies when distracting your opponent's pieces at key moments throughout the game.

Part 1 displays the effectiveness of these patterns and how students can use them in their own games. It also emphasizes how to recognize an opponent's weaknesses in his or her position or how to eliminate some of the strengths that may be protecting an opponent's best pieces, King, and the squares around him.

The Practice Pages and Classroom Activities encourage mastery of these less common but still important tactical ideas. Learning deflections, decoys, and removing the defender's tactics provide a student with unique patterns that can be used to attack, and sometimes even checkmate, an opponent's King. Students now have the ability to recognize their opponent's strengths and weaknesses and how to play against both, in alignment with Common Core State Standards (Geometry, where identifying angles, shapes, coordinates, and lines is developed; and CCSS: ELA-Literacy: Speaking and Listening, where students learn to express their thoughts and ideas with partners).

At the end of this lesson, if taught in conjunction with puzzle-solving on ChessKid.com, students should be comfortable with all of the most critical and common tactical sequences that occur in chess games.

Teacher's Guide

Beyond the basic themes of double attack, fork, pin, skewer, and discoveries, the most commonly repeated tactical methods used in basic and advanced-level chess combinations are diversion, destruction, and removal of the defender. Though there are many others, such as overloading and clearance (just to name a couple not directly covered in our curriculum), establishing a fundamental understanding of the motifs covered is most essential.

To clarify the difference between the vocabulary used for the three diversion themes—deflection, decoy, and the aforementioned concept of attraction—please follow the basic guidelines below. Remember that understanding the tactical goal is much more important than correctly classifying the semantics.

- **Deflection:** the act of taking away a piece from guarding something important.
- **Decoy:** the act of distracting a piece from a certain area of the board (like the outside passed Pawn techniques described later in Lesson 14).
- **Attraction:** the act of bringing a piece to a certain square for a tactic against a particular piece. The tactic being directed against the particular piece you attracted is the key to defining this term (unlike a decoy, where even though you may have attracted or distracted a piece away from something, the tactic is not necessarily occurring against the attracted piece).

Practical Notes and Advice—Lesson 12

- Reinforcement of tactical patterns is 100% necessary for students to recognize opportunities in their own games. Having your students practice on puzzles at ChessKid.com is the best way to reinforce tactics.
- Consider reviewing each diagram from the Practice Pages in class discussion. You can do this on a demo board.
- Don't worry about overemphasizing the semantic distinctions between the themes. Rather, use your time to offer more examples, building on your students' foundational knowledge of the patterns.

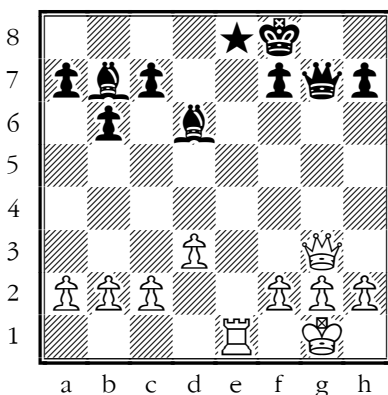
Lesson 12

Part 1: Removal of the Defender and Deflection

Key Concepts

- Diversion tactics: deflection, decoy, and attraction.
- Destroying the defender and “castle position.”
- Removing the guard.

Diversion #1. Deflection: displacing your opponent's pieces.



1.Re8+! Kxe8 2.Qxg7 is a successful deflection.

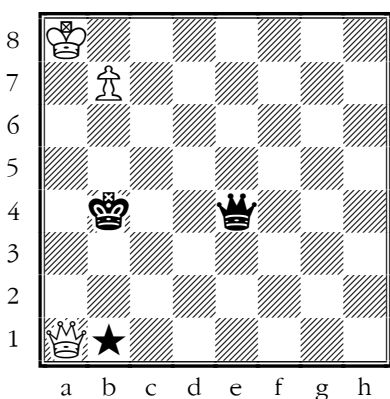
Deflection is the act of forcing an opponent's piece to give up protection over something important. By deflecting this piece away from your target, you can then achieve your goal. Your target might be a square or a piece needing protection. Often, a deflection tactic is a forcing move (either a check or capture) of some kind. Here, White finds an opportunity to deflect the King away from the Queen on g7.

With 1.Re8+!, White is sacrificing the Rook in order to deflect the Black King away from protecting the Queen on g7. This idea is common. A sacrifice of material, in order to deflect a defender, is a normal measure to take in order to execute a winning idea. White is easily winning!

Essential Question, Level III: Application

Considering what you have learned, how would you set up and then solve a deflection problem?

Diversion #2 and #3. Decoy and attraction: the art of distracting your opponent.



Without the decoy, White might never promote the b-Pawn, due to Black's pin along the diagonal.

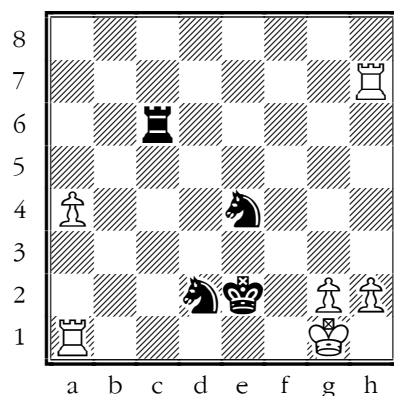
Much like a deflection, a *decoy* is a move that forces the opponent to move a piece away from something important. An attraction does the same thing, but moves that particular piece to a square it doesn't want to be on! In this example, we have both decoy and attraction tactics rolled into one well-known idea.

After 1. Qb1+!!, Black must capture on b1 (or give up the Queen on e4 for nothing). After 1...Qxb1 2.b8=Queen+, the Black King and Queen are now skewered. White wins the Queen, and, of course, the game along with it. This type of decoy sacrifice to take the Queen away from pinning the b7-Pawn to the White King on a8 is common. However, the whole idea doesn't work unless you also attract the Black Queen to the b1-square, setting up the skewer. Diversion tactics like decoy and attraction work well together!

Essential Question, Level III: Application

What elements in a game need to be present to employ a successful distraction using the decoy tactical theme?

Which is it: deflection, decoy, or attraction? Does it matter?



Diversion tactics at work.

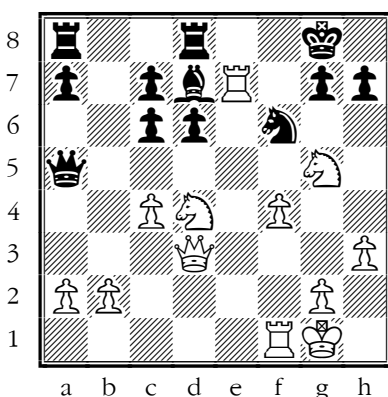
With the forced checkmate-in-three combination of 1...Nf3+ 2.gxf3 (2.Kh1 Nf2#) 2...Rg6+ 3.Kh1 Nf2 checkmate, are we: Deflecting the g2-Pawn away from the King; giving up our Knight on f3 as a decoy to open the g-file; or attracting the Pawn to f3 in order to allow 2...Rg6+?

Which is it? For now, it doesn't really matter how we classify this puzzle or others like it. The general goal of all three of these tactical motifs tends to be the same: force the opponent to move a piece away from something, to somewhere, and to give up protection of something (a piece, a square, the King's safety, etc.) in the process.

Essential Question, Level III: Application

What questions would you ask yourself during a game to determine which tactical theme you could use?

Destroying the defender, example 1: attacking the enemy's castle position.



*If 1...Nxb7 and 2.Qg6,
White wins. 1...Qh5 fails
to 2.Nxf6+ gxf6 3.Qg3+!,
with checkmate to follow.*

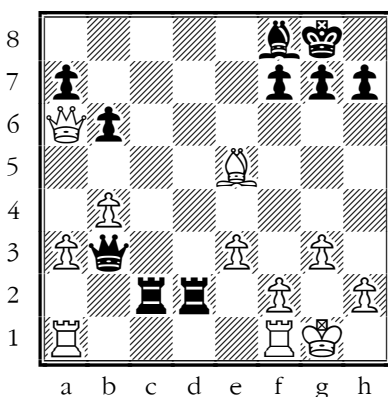
Like the tactical motifs before it, learning to destroy your opponent's defensive position is an extremely valuable pattern. The theme "destroying the defender" generally refers to sacrificial ideas that create access to the opponent's castled King position.

Unlike all the other fundamental tactics taught so far (including fork, pin, skewer, etc.), there is no specific piece that can destroy the defender; nor is there any particular image created. It's likely, though, that the opponent has only a few pieces surrounding the King, which makes it vulnerable to attack. After White's 1.Nxb7!!, Black has no way of stopping 2.Qg6 and mate on g7 to come.

Essential Question, Level IV: Analysis

In two paragraphs or less, write an examination of the parts and features of breaking open a King's castled position. What conclusions can you draw from this strategy?

Destroying the defender, example 2: sacrifice whatever it takes.



Sacrifice the Queen.

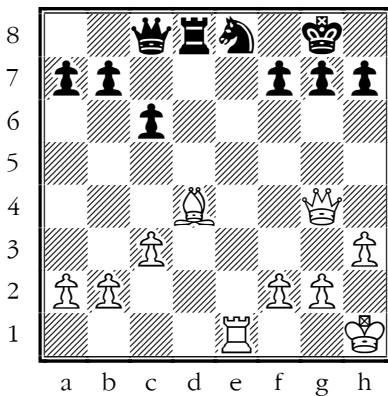
Though this time it is White who comes under fire, the King on g1 has very few defenders. This type of scenario opens up the possibility for tactics. Can you see Black's biggest strength in this position? Whenever attacking the enemy King, consider every move!

Black can play 1...Qxe3!, sacrificing the Queen to open up the 2nd rank. After 2.fxe3, Black has forced mate with 2...Rg2+ 3.Kh1 Rxh2+ 4.Kg1 Rcg2 checkmate. Not capturing the Queen doesn't help White either, as Black will bring the entire royal army to the f2 square next move.

Essential Question, Level IV: Analysis

When do you think it is necessary to sacrifice your Queen in a game? And why do you think it is important to make sure the Queen sacrifice will work?

Removing the defender, example 1: see your goal, and eliminate what's stopping you.



1. Rxe8+! Rxe8 2. Qxg7#

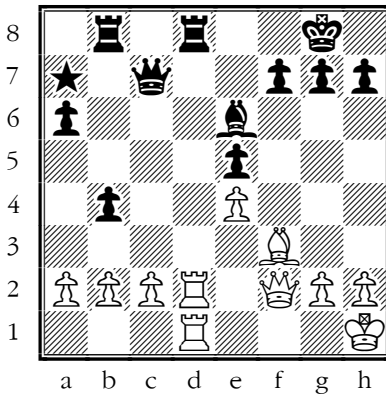
The concept of destroying the defender can be rather vague. Our previous two examples displayed tactics of destruction, but the specifics can vary greatly when destroying a castled position. When you have more pieces around your enemy's King, you should also look for forceful ways to remove the defender of critically weak points.

The forcing combination listed beneath the diagram shows White's objective clearly: White wants checkmate on g7, and Black's Knight protects g7. White removes the Knight, and does so in a forcing manner by capturing the Knight.

Essential Question, Level IV: Analysis

How is seeing your goal related to winning your game?

Removing the defender, example 2: recognize the weakness and remove the guard.



After recognizing the opponent's biggest weakness, remove all defenders.

Our final example displays a completely different type of removal of the defender tactic—so much so that it borders on a decoy or deflection sacrifice. But naming the puzzle isn't as important as executing the idea! White sees Black's biggest weakness: the back rank (8th rank). Currently, there is no way to exploit this, despite having Rooks doubled along the d-file. Which Black piece is defending d8?

That is about to change! White finds a surprising shot—1.Qa7!!—removing the Black Queen from the protection of the d8-Rook, and therefore the back rank. After 1...Qa5 (trying to postpone the inevitable), White plays 2.Qxa6! Qc7, and once again 3.Qa7, where White is winning. Capturing d2 at any point would only lose the Black Queen.

Essential Question, Level IV: Analysis

What conclusions do you draw about the importance of removing your opponent's defenders in a game?



Lesson 12 Summary and Linking Content to Standards

In Lesson 12, students learned advanced tactical ideas to add to their now-expansive tactical repertoires: the deflection, the decoy, and the removal of defender. This lesson concludes our section on tactics for this curriculum; however, a student's work on tactics should never end! Continued practical reinforcement is suggested in the Teacher's Guide and on ChessKid.com.

The tactical themes in this lesson encourage students to use their pieces more effectively by distracting, hindering, or eliminating their opponent's pieces, which naturally requires a more advanced perspective on chess positions as a whole, because a student must be aware of the obvious (and not immediately obvious) weaknesses in the opponent's position for these multi-move combinations to work.

A student's ability to use his or her pieces to pressure the opponent's pieces and position is a crucial step in developing strong skills from a solid foundational knowledge of chess.

Further, in this lesson, students used a variety of tactics to leave enemy pieces, including sometimes the King, unprotected or under-protected. They learned examples of deflections, which displaced enemy pieces, and decoys, which allowed them to distract their opponent or their opponent's pieces. Additionally, students learned about removing the defender, which allowed them to capture or force a piece to move, leaving another important square or piece unprotected. This tactic was shown to be especially useful when attacking the King, or squares around the King, because the position became vulnerable, and the King's army could no longer protect important squares around him.

Students have now been introduced to all of the important tactical ideas critical to a beginner chess player. They have absorbed key patterns and strategies that will aid them in their vision of the board. Being able to critically analyze, apply skills learned, and express ideas to others emphasizes the influence the CCSS has on the implementation of the activities in this curriculum, as it is crucial for instructor to continually guide students towards achievement.

As with all lessons, our Essential Questions are designed to meet the district-mandated assessments, like Partnership for Assessment of Readiness for College and Careers (PARCC), which require a student to take information provided and express ideas with others through collaboration. Elaborating on the information provided enables the student to demonstrate knowledge through constructed responses on paper through writing, illustrations, and technology, when appropriate.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

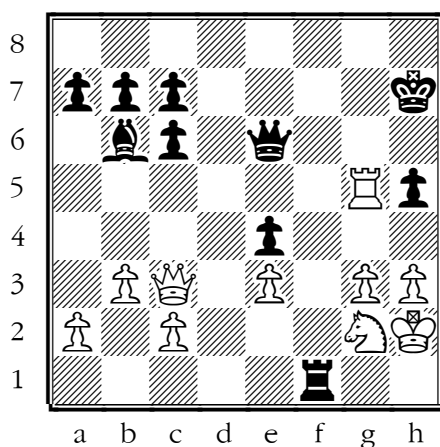
Practice Pages

Practice 1: Using tactics to win.

The puzzles below randomly show deflection, decoy, attraction, and removal of the defender.

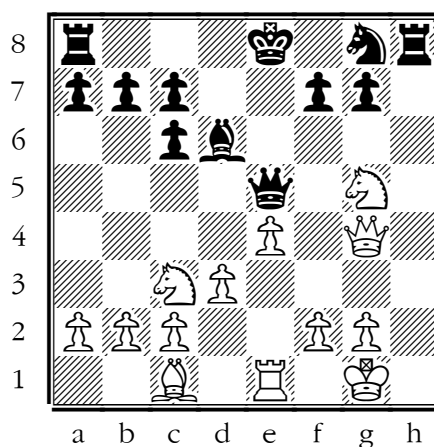
*Circle the piece you choose to move,
and put an "X" on the square it should move to.*

Write the moves down in algebraic notation to the left or right of each diagram.



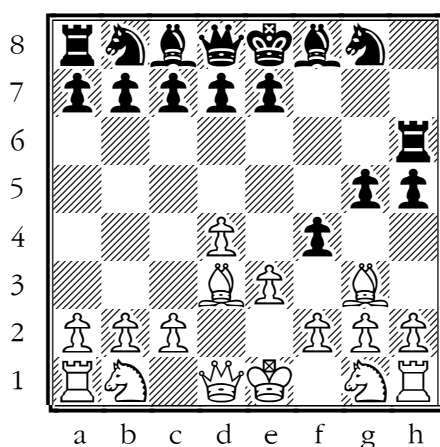
Black to play:

forced checkmate in two moves.



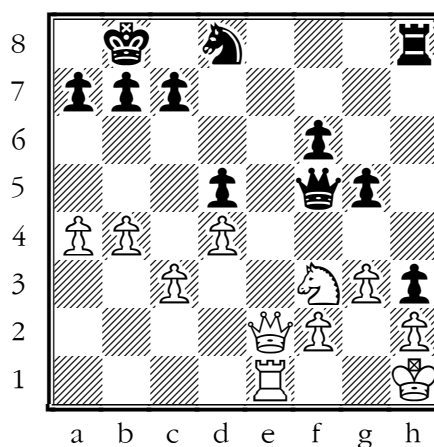
Black to play:

forced checkmate in two moves.



White to play:

forced checkmate in two moves.



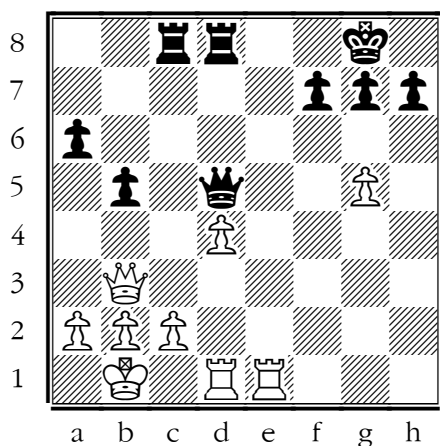
Black to play: win the game or
mate in three moves.

Practice 2: Using tactics to win.

The puzzles below randomly show deflection, decoy, attraction, and removal of the defender.

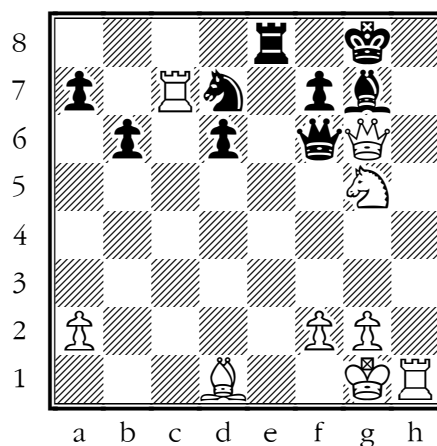
*Circle the piece you choose to move,
and put an "X" on the square it should move to.*

Write the moves down in algebraic notation to the left or right of each diagram.



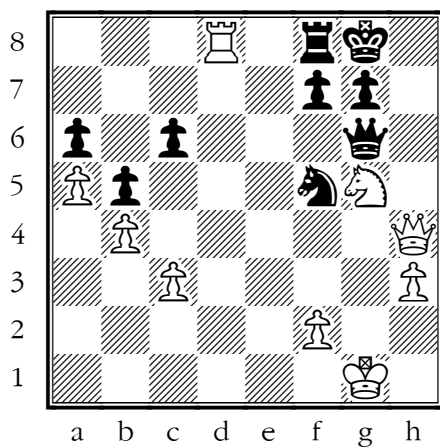
White to play:

win Black's Queen for a Rook.



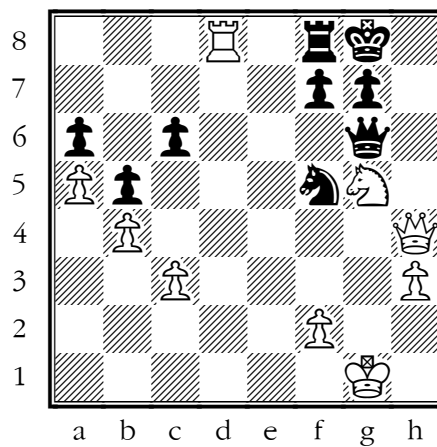
White to play:

forced checkmate in two moves.



White to play:

forced checkmate in two moves.



White to play:

forced checkmate in two moves.

Answer Key

Practice Page 1: Using tactics to win

Diagram #1 1...Qxh3+! 2.Kxh3 Rh1# – Deflection or decoy tactic.

Diagram #2 1.Qxh5+! Rxh5 2.Bg6# – Deflection or decoy tactic.

Diagram #3 1...Rh1+!! 2.Kxh1 Qh2# – Attraction tactic.

Diagram #4 1...Re8! 2.Qxe8 (or 2.Qd1 Qxf3+!! 3.Qxf3 Rxe1#) 2...Qxf3+ 3.Kg1 Qg2# – Removal of the defender (Black removes the Queen from guarding the f3-Knight), or a deflection, or a decoy tactic.

Practice Page 2: Using tactics to win

Diagram #1 1.Re8+! Rxe8 2.Qxd5 winning – Deflection or removal of the defender tactic.

Diagram #2 1.Qh8+! Kxh8 2.Rxf8# – Attraction or deflection tactic.

Diagram #3 1.Rh8+! Kxh8 2.Qh7# – Attraction tactic.

Diagram #4 1.Qxf7+ Nxf7 2.Ng6# – Destroying the defender tactic.

Classroom Activities

Activity 1: A famous deflection: the three Pawns breakthrough

Activity goal: Recognizing deflection tactics in a famous Endgame puzzle; checking basic understanding of complicated tactical ideas by each student. (Part 1)

Geometry: CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up boards and sets and pair off students.
- Next, set up the following position, both on a demo board for the class to follow, and on the boards in front of each student pair: White pieces Ka4, Pf5, Pg5, Ph5; Black pieces Ka6, Pf7, Pg7, Ph7.
- Have the students try to solve this puzzle with White to move and win, using some of the tactical ideas that they have learned.
- The correct answer is: 1. g6 hxg6 2. f6 (a deflection) gxf6 3. h6 promoting to a Queen in two moves or 1. g6 fxg6 2. h6 (a deflection) gxh6 3. f6 promoting to a Queen in two moves.

To reinforce these ideas, students can try to practice this puzzle against one another in pairs, playing both the White and Black side of this Endgame.

Activity 2: Masters of deception

Activity goal: Recognizing deflections, decoys, diversions, and removal of defender tactics in a typical game setting; checking basic understanding of complicated tactical ideas by each student; reinforcing that successful tactical strategy will lead to material gains. (Part 1)

Comprehension and collaboration: Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)

Geometry: CCSS.Math. Content. G.A.1 (K-5)

Instructions

- Set up boards and sets and pair off students.
- Have each student begin a normal chess game.
- Any time students notice a deflection, decoy, diversion, or removal of defender tactic in their game, have them show you the tactic, as well as explain what type of tactic it is. They earn one point for showing you the tactic and one point for a correct explanation of that tactic.
- Keep track of the total amount of points each student earns throughout the entire game.

Coach/teacher can award small prizes to the students who earn the most points throughout the exercise.

SECTION 4

Section 4: Endgames



LESSON 13

Lesson 13: Rook Mates, Zugzwang, and King Play



Overview

Lesson 13 shifts the focus to Endgames, the definition and purpose of Zugzwang, and the power of the King. Knowing how to checkmate your opponent when there are very few pieces left on the board can be difficult, and mastery of the most efficient checkmating techniques is essential, especially because chess players typically have little time left on their clocks to figure out tricky positions in the Endgame.

Part 1 teaches students one of the most important and common checkmates: the King and Rook versus King checkmate, which is a must-know for all chess students. It highlights one of the proper techniques used to force the enemy King to the edge of the board and deliver mate. Part 2 presents the idea of Zugzwang, where a player has no moves that he or she can make that don't either lose the game or cause her or his position to worsen. It highlights some common examples of Zugzwang that occur in Rook, Pawn, and other Endgames. Part 3 focuses its attention on King activity, and how important it can be to unleash the King in the Endgame, when he is less at risk of being checkmated, and is needed to help attack your opponent's King. An active King can make a major difference in the Endgame, and can give a large advantage to a player.

The Practice Pages and Classroom Activities help students master these important Endgame techniques. Learning the technique behind certain checkmates, like the King and Rook versus King mate, as well as important Endgame concepts like Zugzwang and an active King, enables students to finish Endgames that can otherwise be difficult. For these reasons, this lesson closely aligns with the Geometry (angles, lines, shapes, coordinates) standards for the Common Core. With this knowledge, students will feel confident that they can win in the Endgame, even with only small advantages.

Teacher's Guide

When teaching the advanced concepts of the King and Rook checkmate, Zugzwang and King Power/Activity, it is very important for the instructor to move slowly through each example and not jump to the next position or concept until the students demonstrate a full understanding of the concept and skill at hand.

It is vital that your students begin to see the patterns in every lesson. Chess is a game of pattern recognition in so many ways. Moving onto a more difficult position without proper knowledge or understanding of the more basic version of the same concept is going to become increasingly more difficult as students progress.

Chess study follows a logical step-by-step process that requires a player be prepared for the next phase or position on the board. Without fundamental understanding of basic positions, a player will find him/herself consistently miscalculating and mis-evaluating not only their position, but also their longer-term planning during actual games.

Practical Notes and Advice—Lesson 13

- Displaying the repeating concept of the Knight's move/check pattern first learned in Lesson 4, Part 1 can help a student quickly master the King and Rook checkmate (Part 1).
- A creative way to illustrate Zugzwang is to point out that in other board games, a player can lose a turn or go to jail as punishment; in chess, you must always take your turn. Essentially, Zugzwang prevents players from moving only when they want to. This may help students realize another aspect that makes chess different from other types of games (Part 2).
- To further illustrate the power of the King and the importance of King activity in the Endgame, we have included a practical mini-game as the Practice Page for this lesson. Though it will not be possible to do all the levels of this game in one sitting, it can be referenced during free periods, or any time the teacher feels the students need a reminder of the importance of King activity.

Lesson 13

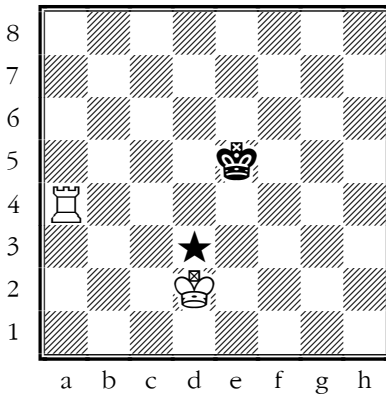
Part 1: Basic Checkmates: King and Rook versus Lone King

Key Concepts

- King and Rook play.
- More complex checkmate patterns.
- Introduction to opposition and Zugzwang.
- The concept of a waiting move.

For more experienced chess instructors, we'd like to highlight that our chosen approach for teaching the King and Rook versus King Checkmate pattern is designed to help students see repeating moves and themes. This instills confidence that no matter what move their opponent plays, the mating net cannot be stopped and the critical components cannot be changed. We are aware that there may be more accurate moves and efficient ways to reach the goal of checkmate; however, more important for us is a student's firm recognition and memorization of a repeatable mating pattern.

The Pattern: Rook checks from afar, King chases the Knight's stars.



*White moves 1.Kd3, a
"Knight's check" from the
Black King...*

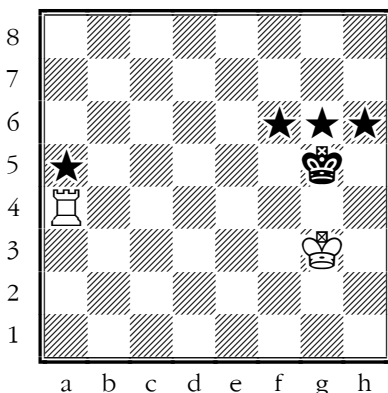
Unlike the Queen (Lesson 3, Part 1), the Rook is unable to force the enemy King to the corner on its own. In this checkmate pattern, the King and Rook need to help each other every step of the way. The Knight's Move/Check pattern does continue; however, this time we say our King is "chasing the stars."

The reason we move to d3 (rather than e3, for example) is that it needs to be White's turn to move as soon as the Kings take opposition (meaning they are directly aligned, with one square between them. See Lesson 14 for more on opposition). Example: If Black were to play 1...Kd5, the Kings would be opposed, and White would immediately play 2.Ra5+, forcing the King to retreat one step closer to the back rank.

Essential Question, Level V: Synthesis

For review, discuss what other mating pattern used the Knight's check method, and how that concept helped you learn that mating technique. Can you construct some positions on the board?

The unavoidable opposition check.



Continued from the first diagram, the moves played were: 1...Kf5 2.Ke3 Kg5 3.Kf3 Kh5 4.Kg3 and 4...Kg5. White plays now.

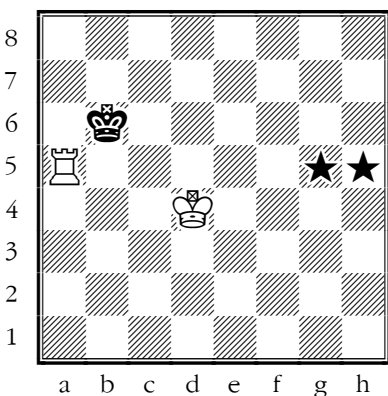
Notice that even with his best running shoes on, the Black King is unable to avoid opposition. Eventually, the Kings do line up, which is the perfect, and only, time to give check. After 5.Ra5+, the Black King must retreat and move one rank closer to the back row.

This pattern of keeping the Rook at a distance, chasing the opposition with your King, and only delivering check when the King will have to retreat (meaning, only when the Kings are directly opposed) is an unstoppable plan. Black only possesses one final trick that White can easily stop.

Essential Question, Level V: Synthesis

What would the result be if Black attempted the final trick and succeeded? Is Black capable of winning this position? What is his best possible result?

Step 2: stay on the same rank, and don't forget to wait.



From the diagram above, the moves 5.Ra5+ Kf6 6.Kg4 Ke6 7.Kf4 Kd6 8.Ke4 Kc6 9.Kd4 and 9...Kb6 were played, with White to move now.

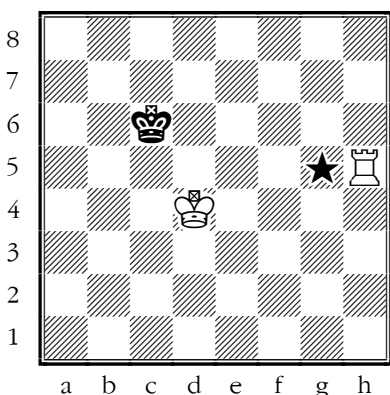
Eventually, we reach a position where the Black King, playing the best possible moves, is attacking our Rook: his final trick. We must stop our King-chase for the moment and find a safe place for the Rook; otherwise, the Rook will be captured.

By transferring the Rook to the opposite side of the board while staying on the fifth rank, we're putting as much space as possible between our Rook and the Black King. After 10.Rh5 (or g5) 10...Kc6 we must be careful; we cannot make the mistake of 11.Kc4?!, which would allow the Black King to sneak past us with 11...Kd6!, and once again travel to the other side of the board to eventually attack our Rook. Instead, we must make a *waiting move*. (Continued...)

Essential Question, Level V: Synthesis

Can you explain what justifies the necessity for the King and Rook to work together in order to checkmate Black?

Step 3: the waiting move.



After 11.Rg5!, here we continued with 11...Kb6 12.Kc4 Ka6 13.Kb4 Kb6 14.Rg6+ Kc7 15.Kb5 Kd7 16.Kc5 Ke7 17.Kd5 Kf7 18.Ra6 Ke7 19.Rb6! (waiting move again) 19...Kf7 20.Ke5 Kg7 21.Kf5 Kh7 22.Kg5 Kg7 23.Rb7+ Kg8 24.Kf6! Continue...

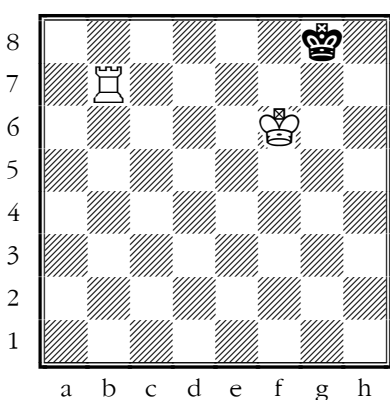
Again, instead of 11.Kc4 here, we make a *waiting move*. By sliding the Rook over one square to g5, we have placed Black in Zugzwang (which means that Black doesn't want to move, but he must. See Part 2). Now Black's choices are either to run away to b6 (see the moves listed beneath the diagram) or allow the immediate 12. Rg6+ with 11...Kd6, which would only make White's task easier. Voluntarily retreating the King to the seventh rank also allows Rg6, cutting off the sixth rank.

After 11...Kb6 12.Kc4 Ka6 13.Kb4 Kb6 and 14.Rg6+, it is clear that we have a repeating pattern: chase the King, give check only after opposition is achieved, and remember to swing the Rook and make a waiting move, and then another waiting move, at the critical moment.

Essential Question, Level V: Synthesis

Can you predict an outcome for White if he cannot successfully cut off the opponent's King?

Step 4: reach the back rank, and finish the job.



Position after 24.Kf6!: 24...Kh8 25.Kg6 Kg8, and finally 26.Rb8#.

This position offers a perfect example of the final sequence of moves. Once again, White swung the Rook to the far side away from the Black King, and then made a waiting move (see the list of moves below the previous diagram). Now, after the strong 24.Kf6!, White is making the final sequence of trapping the Black King in the corner an easy task.

Like all good checkmate patterns, this technique works regardless of the opponent's willingness to cooperate. However, if Black did not have to move, White would never be able to corner the King. This predicament in chess is known as Zugzwang. For more on Zugzwang, proceed to Part 2.

Essential Question, Level V: Synthesis

If Black could pass his or her turn at will while on g8, and then again whenever she or he wished to, how would you test and prove the theory that White would never be able to achieve checkmate?

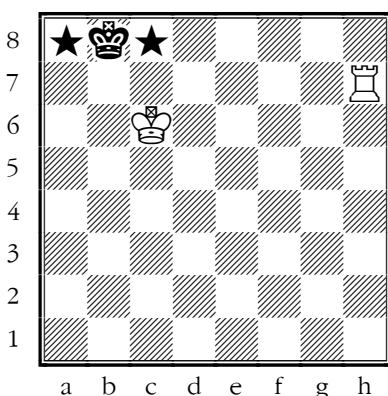
Part 2: Zugzwang Explained

Key Concepts

- Definition and examples of Zugzwang.
- Tricky combinations and Zugzwang tactical motifs.

Zugzwang is a German word meaning "move-need," literally translated as "move compulsion." This is a situation where every move a player could make causes him or her to lose, or at least seriously worsen her or his position.

Zugzwang example 1.



Black is in Zugzwang, with every possible move being a bad one. 1...Kc8 is checkmate after 2.Rh8#, while 1...Ka8 2.Kb6 has mate to follow.

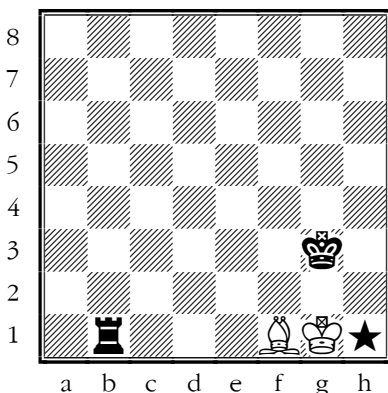
If either player had the ability to pass his or her turn at will, only moving when desired, numerous positions in chess would become stuck, reaching a figurative stalemate. In our first diagram, we see a perfect follow-up example to our previous lesson (Part 1, Lesson 13).

You can see that if Black could pass a turn in this position, and White were forced to move again (following the last move, 1.Kc6 with 2. Kb6, for example), Black would escape after 2.Kb6 with 2...Kc8! and run to the other side of the board, waiting to skip a move again at just the right moment. If Black could continue this pattern of only moving when she or he wanted to, the game would never end.

Essential Question, Level I: Knowledge

How would you explain Zugzwang to a new chess player?

Zugzwang, example 2.



Black played 1...Rb1.

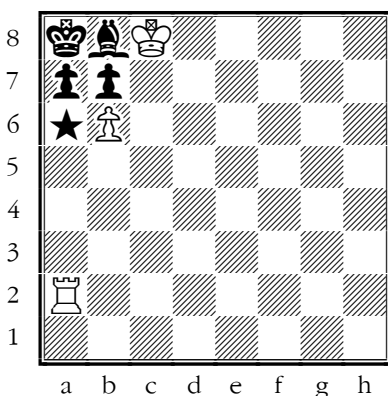
Black's last move pinned the f1-Bishop (meaning the Bishop is attacked but can't move; see Lesson 10) to the King on g1. Black's move effectively ends the game, and here's why:

White has no choice but to move 2.Kh1, allowing the immediate 2...Rxf1#. This is a perfect example of Zugzwang, as White's only legal move is losing on the spot. Yet if a player could skip a turn, White's King would remain perfectly safe, forever shielded by the pinned Bishop on f1; therefore, the game would never end.

Essential Question, Level I: Knowledge

Can you list three reasons why it is not be good to be placed in Zugzwang by your opponent?

Zugzwang, example 3.



Paul Morphy – 1840s?

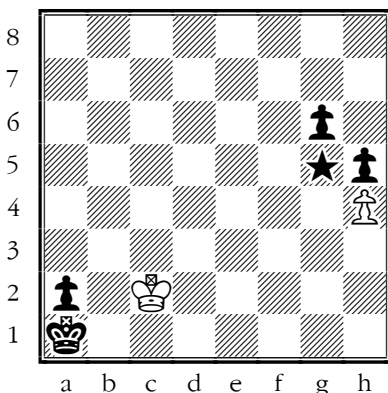
Now for some fun! In this famous position, White plays 1.Ra6!!, sacrificing the Rook, but immediately placing Black in Zugzwang. Though it may not be the most practical example, it is a classic idea—one repeated in a large number of chess puzzle books. If 1...bxa6, then 2.b7#, and if 1...B on b8 moves anywhere, then 2.Rxa7 is checkmate.

The imaginary or composed nature of this position shows the power of playing forcing moves and leaving the opponent with no good options (a.k.a. Zugzwang). Again we see that if Black could pass, the beauty of Morphy's idea would be lost, or perhaps would have never existed.

Essential Question, Level II: Comprehension

Can you explain whether or not someone can be in Zugzwang if they still have good, useful moves to make?

Zugzwang, example 4.



White's last move was
1.Kc2!—Zugzwang.

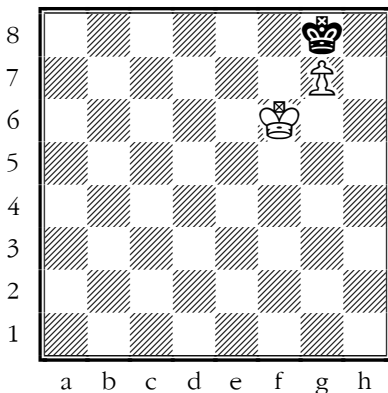
Here we see that Black's King is almost stalemated; Black's only legal move in our current diagram is 1...g5. White then plays 2.hxg5, and this leads to a series of forced moves, while Black knowingly walking towards his own doom.

After 2.hxg5 h4 3.g6 h3 4.g7 h2 5.g8=Q h1=Q and 6.Qg7 is checkmate! Though the first position is the most critical, you could argue that Black was in Zugzwang for six moves in a row, with no way of escaping the ensuing checkmate along the a1-h8 diagonal, Black continues to make the only moves, knowing that the position is lost.

Essential Question, Level II: Comprehension

Can you explain why Black's material advantage of two Pawns to start this position does not help Zugzwang?

Zugzwang, example 5.



Here White has just
played 1.g7!, forcing Black
to the h7-square.

Our final example shows the commonly reached climax of a basic King and Pawn versus King ending (Lessons 14 and 15) in which White achieved the goal of eventually forcing his opponent to give up control of the all-important promoting/Queening square, g8.

After Black's only legal move, 1...Kh7, White plays 2.Kf7 and promotes the g-Pawn on the next move, easily winning in the King and Queen versus King ending (Lesson 4 – Part 1). If Black could just pass the turn, Black would never have to surrender the g8- or f7-squares. As you can see, a position where one player is in Zugzwang can end the game quickly!

Essential Question, Level II: Comprehension

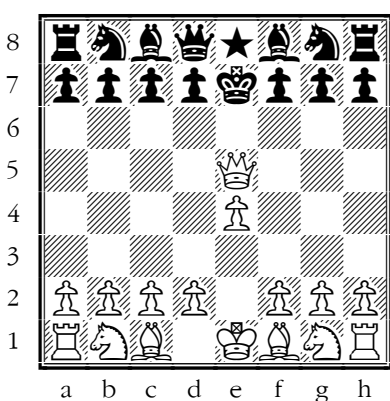
This position is also a forced checkmate in four moves. Can you see how White can checkmate Black quickly after promoting to a Queen on g8?

Part 3: King Play, King Power, and King Activity

Key Concepts

- King play: when to be aggressive and when to play it safe with the King.
- King power and domination over other short-range pieces (Knights and Pawns).
- King activity in the Endgame and other basic Endgame ideas.

When not to use your King—play it safe, example 1.



1.e4 e5 2.Qh5 and 2...Ke8-e7?? 3.Qxh5#.

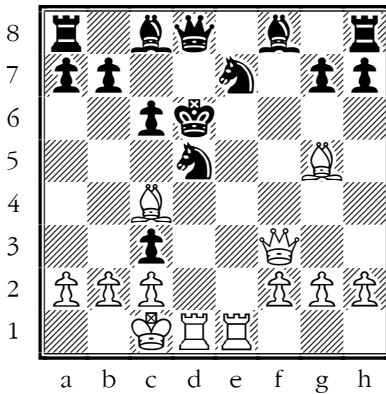
The King's role is an important one, both when we are using him and when we are not. Because “losing the King” (checkmate) immediately results in the loss of the game, keeping him safe is always priority #1. Generally the Opening stage of the game is the worst time to play with your King, so keep the big guy home.

As we saw in Lesson 7 Part 1, this is an extreme example of what happens when the King decides to lead his army. In this three-move checkmate, Black has just played 2...Ke8-e7??, allowing 3.Qh5xe5 with checkmate. It should be more than obvious by this point that Black should have developed his other pieces, keeping the King safe.

Essential Questions, Level IV: Analysis

What is the function, if any, of the King in the Opening stages of the game? Can you explain when it would make sense to use or not use him in other stages of the game?

When not to use your King—play it safe, example 2.



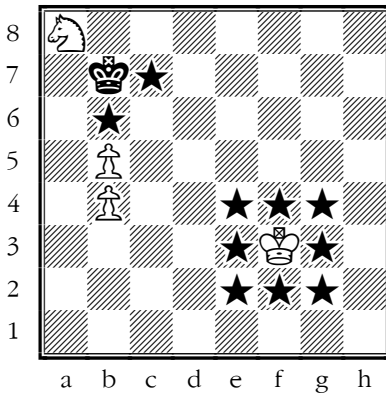
Though specific Openings are not relevant to understanding this concept, here we see an example from a famous Opening: the Fried Liver Attack. This position clearly displays the problem with sacrificing the development of your pieces and displacing your King for the sake of material. Black's two-piece advantage is, amazingly, not enough to safeguard the King or save the game!

Here, White can play a number of moves that lead to a significant advantage and the eventual winning of material; however, the most forcing line of play is 13.Bxd5 cxb2+ 14.Kb1 (avoiding any threats from Black) 14...cxd5 15.Bxe7+ Bxe7 and 16.Rxd5! winning the Queen on d8, and likely checkmating the Black King shortly thereafter.

Essential Question, Level IV: Analysis

What conclusions can you draw from risking King safety for material gain in a game?

King power and square control, example 1.



Here we see two examples of the power of the King.

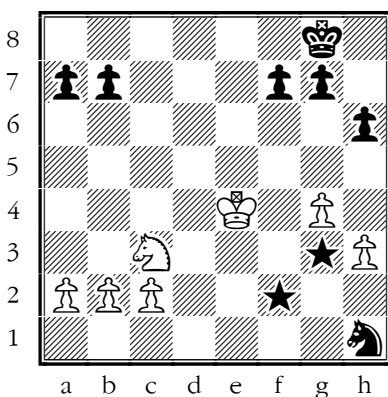
After seeing two examples of why we don't want to use our King too early in the game, we move onto our first position designed to display the King's power. Many players do not realize that only one other piece besides the Queen controls every square directly surrounding its current position: the King.

In our third diagram, we see two examples of the King's power. First we see that standing alone in the middle of the open board, the White King controls a total of eight squares. Further, it is clear from the stars that the White King controls every square directly surrounding its current position. Likewise, we see the King's ability to control every square directly surrounding it gives the Black King power over pieces such as Knights and Pawns. The Knight is trapped on a8 and the White Pawns can't help.

Essential Question, Level IV: Analysis

How would you categorize the two Kings in this diagram? Is either King more or less powerful than the other? Why or why not?

King power and square control, example 2.



White to play and win.

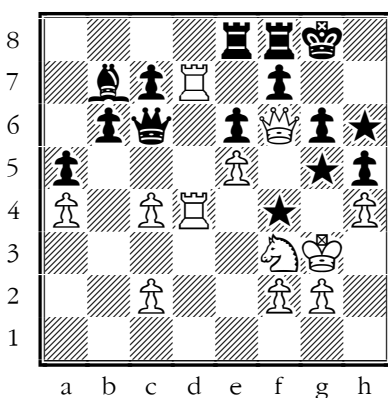
In the current position, White can trap the Black Knight on h1 with the correct move. Though we don't normally think of our King as an aggressive or powerful piece, it is important to remember the King is capable of great things.

After 1.Kf3!, the White King is controlling both the f2- and g3-squares, thus preventing the Black Knight from escaping the corner. Regardless of Black's response, White will play 2.Kg2 next, attacking the trapped piece and winning it in just one more turn. Black should never have put his Knight on the rim (See Lesson 19 for more information on that).

Essential Question, Level IV: Analysis

Can you analyze how the balance between the King's safety and its power is related to its position on the board and the position of the other pieces?

King power and square control: rare aggressiveness with the King, example 3.



*White to play in the game
1-0 Short, N. - Timman, J.
Tilburg 1991.*

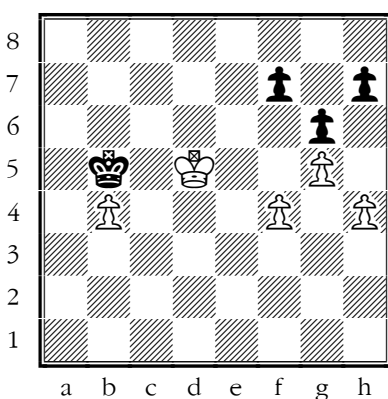
Using your King when the enemy Queen is still in play is risky, and though we don't normally think of using our King when there are still so many dangerous pieces on the board, as we see from this legendary game, there can be exceptions to this rule! White to play and win.

In this famous position, English Grandmaster Nigel Short played the move 33.Kf4!!, followed that with 34.Kg5, and before he could even reach the h6-square, protecting the Queen for giving checkmate on g7, his opponent, Grandmaster Jan Timman, resigned. Wow, what an incredibly powerful King!

Essential Question, Level IV: Analysis

What evidence can you find to support why Black was unable to prevent or challenge White from bringing the King to h6?

King play in the Endgame—activating the King, Example 1.



With an active King, White is winning.

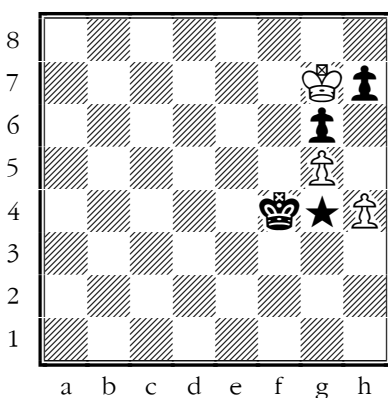
The Endgame is considered to be the final stage of a chess game. Generally, we are considered to have reached the Endgame stage when the Queens have been traded and only a few pieces remain. In equal (or close to equal) Endgames the King's value is very high, and playing actively with the King is an absolute must!

Here, because of the active and central position of the King on d5, White is winning regardless of whose turn it is to move. Now, even if it were Black to play and Black chooses 1...Kxb4, the White King will go to e5, f6, and start capturing Black's Pawns.

Essential Question, Level IV: Analysis

What ideas or general themes about chess that you've learned justify King activation in an Endgame?

King play in the Endgame—activating the King, example 2.



*After 1...Kxb4 2.Ke5 Kc4
3.Kf6 Kd4 4.Kxf7 Ke4
5.Kg7 Kxf4 and 6.Kg7.*

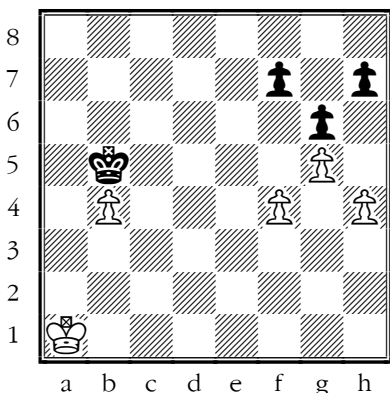
The current position is reached assuming the best line of play following the original diagram above in Example 1. As we can see, White's more active and better-placed King leads to a position where Black's King is one move/tempo behind the White King in their race to the Kingside Pawns. Black's position is losing by force.

Black continues with 6...Kg4, and the game follows the logical line of 7.Kxh7 Kxh4 and 8.Kxg6!, effectively ending the game as White's King not only protects his g5-Pawn, but will soon clear the way for the Pawn to advance up the g-file, where it will promote to a Queen. An active King alone can win an otherwise equal Endgame.

Essential Question, Level IV: Analysis

Why do you think tempo is an important aspect to positions where both sides are racing to achieve a goal?

King play in the Endgame—activating the King, example 3.



With a passive King, White is losing.

The opposite of the active and centralized King (Example 1) is the passive and slow King. Everything from this position is the same as our first example, except the position of White's King. This should display the final instructive point of Lesson 13: in an equal Endgame, a passive King alone can lose the game!

Even with White to play, we see the following line (note White's King is unable to challenge Black's march to the Kingside Pawns): 1.Kb2 Kxb4 2.Kc2 Kc4 3.Kd2 Kd4 4.Ke2 Ke4 5.Kf2 Kxf4 6.Kg2 Kg4 7.Kh2 Kxh4 followed by Kxg5 with an easily winning position for Black.

Essential Question, Level IV: Analysis

Given what you've learned about King activity, how is knowing "good rules of thumb" before looking to activate your King into the center of the board related to King safety and success?

Lesson 13 Summary and Linking Content to Standards

In Lesson 13, students were taught critical Endgame technique. Endgame strategy and pattern recognition is especially important, because often students have very little time left on their clocks when they reach an Endgame. Mastering key Endgame checkmating patterns and learning how to activate the King at the right moment will give students a decisive edge at the end of the game. These skills align with Common Core State Standards Comprehension and Collaboration: Speaking and Listening, Writing, and Geometry, by emphasizing the importance of using certain pieces at critical moments in a game of chess and how to use these pieces when there is little of each army left on the board. Being able to formulate plans, discuss them with peers, and implement the plans in real-time play requires the student to exercise problem-solving and critical thinking during the game.

Students first learned the King and Rook versus King checkmating net. Next, students saw several examples of Zugzwang, which occurs frequently in Endgames. In Zugzwang, a player has no good moves, and any move made either worsens the position or is a losing move. Additionally, students saw the importance of activating the King in Endgames. With fewer pieces left in the game, there is less risk for the King out in the open as he maneuvers across the board. Students are beginning to learn that the King is often a necessary attacking piece in the Endgame, and is used as support in checkmates like the King and Rook versus King Checkmate.

At the conclusion of this lesson, students have learned the most common, basic checkmating patterns (ending with the King and Rook versus King). The repeating patterns of the common mating techniques in chess relate directly to Common Core State Standards: Geometry in pattern recognition, shapes, angles, lines, and coordinates when learning and visualizing various chess moves on the board with few pieces left. As per district-mandated district assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), students will have produced constructed responses explaining their problem-solving skills in both English Language Arts and Mathematics, and the skills learned through chess increase these critical thinking concepts.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

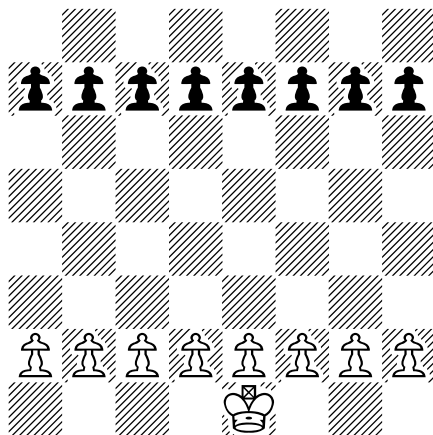
Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Writing with expression	ELA-Literacy.W. (K-5)

Mini-game

Practice 1: King-play practice games



Level 1: ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♔ versus ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♚
 Level 2: ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♔ ♞ ♚ versus ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♚ ♞
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 Level 5: ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♖ ♔ ♞ ♚ versus ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♜ ♚ ♞

Rules/Goal: First player to promote (reach either the first or eighth rank with a Pawn) wins.

Teaching Tips

- Additional levels may be added, as long as the repeating pattern of one side (Black or White) playing with a King against a King-less opponent is maintained; however, we don't recommend a pair of students move to a more complicated level until both students have easily won playing with the extra King.
- Remind your students that using their extra piece (the King) and activating him early is usually a good idea when there are no Queens on the board, as in Levels 1-4 of this activity. This reinforces good Endgame principles.
- One way to realize an extra piece advantage is to make trades. It will be easier for the King to dominate the Pawns after evenly trading off pieces—i.e., Knight for Knight, Bishop for Bishop, etc., in Levels 2-5 of this activity.

Classroom Activities

Activity 1: King-play practice games

Activity goal: Practicing the King-play games will help a student improve his or her understanding of how to effectively use her or his King in the Endgame.

Geometry: CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

See mini-game handout.

Activity 2: The blind chase

Activity goal:	Practicing the King and Rook versus King checkmate technique, reinforcing basic understanding of Rook Endgame strategy. (Part 1, Part 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.5and6 (K and 2)(See Appendix)
Writing:	CCSS.ELA-Literacy.W.1(K-1),2-8 (K-5);ELA-Literacy.L1.1G,1.1I (1st grade),2.6 (2nd grade)
Geometry:	CCSS: Math. Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

- Set up empty boards and pair students.
- Hand one player the White King, a White Rook, and the other the Black King.
- The first player will close her or his eyes and place the White pieces on the board.
- Wherever the White pieces end up, the second player now gets to place his or her King on the board while looking wherever he or she wants, as long as it's a legal square.
- The first player gets to move first, and must try the King and Rook versus King checkmate against his or her partner, who will move the Black King and try to get a draw.
- After the first player checkmates her or his opponent, switch sides and repeat.

Students should be able to complete this exercise over and over again. Coach/Teacher may also use chess clocks, giving each student a certain amount of time to checkmate his or her partner with the King and Rook: 5 minutes, 3 minutes, 1 minute, etc.

Activity 2: Mate in three, no matter what!?

Activity goal:	Practicing the King and Rook versus King checkmate technique, highlight basic understanding of Rook Endgame strategy, reinforcing the importance of an active King in the Endgame. (Part 1, Part 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.5and6 (K and 2)(See Appendix)
Writing:	CCSS.ELA-Literacy.W.1(K-1),2-8 (K-5);ELA-Literacy.L.1.1G,1.1I (1st grade),2.6 (2nd grade)
Geometry:	CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

- Set up the demo board for the group of students with the following position:
 - White pieces – Ke6, Re5
 - Black pieces – Ke8
- Pair the students and have them set up the same position on their chess boards.
- Tell students it is White to move and checkmate in three moves.
- Have students write down the three-move checkmate that they come up with. There are several different answers that work.
- Once all pairs of students have found an answer, show the different checkmate combinations on the demo board. Reiterate how the theme here is cutting off the King, and how important an active King is in the Endgame.

If a pair of students finds a three-move checkmate combination quickly, while other pairs of students are still working, have them search for more combinations.

Checkmate examples for exercise:

1. Rd5 Kf8 2.Rg5 Ke8 3.Rg8#
2. Re1 Kd8 2.Rc1 Ke8 3.Rc8#
3. Rh5 Kd8 2.Rc5 Ke8 3.Rc8# etc.

Activity 1: Zugzwang galore!

Activity goal:	To recognize Zugzwang in the Endgame; reinforce what Zugzwang is and how important it can be in winning the game. (Part 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) ; CCSS.ELA-Literacy.SL.2,3 (K-5),CCSS.ELA-Literacy.SL.5and6 (K and 2)(See Appendix)
Writing:	CCSS.ELA-Literacy.W.1(K-1),2-8 (K-5);ELA-Literacy.L1.1G,1.1I (1st grade),2.6 (2nd grade)
Geometry:	CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

- Set up chess boards, with the sets to the side, and pair students.
- Students will be working together.
- Remind students what Zugzwang is, and provide them with an example from the lesson if they need a refresher.
- Have students attempt to create a Zugzwang position, using whatever pieces they would like.
- When students believe they have created a Zugzwang, have them raise their hands. Go to their board and see if they are correct. If so, have them try again, this time with different pieces. If the position is not Zugzwang, help them determine why it isn't, and see if they can make adjustments so that the position becomes Zugzwang.
- Show the positions the students create to the entire class on the demo board, to help students see more examples of Zugzwang and get more exposure to the concept.

Coach/Teacher can award a medium prize to the pairs of students who are able to create a Zugzwang, and a small prize to the pairs of students who create a position that is pretty close to Zugzwang (this is a good learning experience; it does not have to be perfect).

LESSON 14

Lesson 14: Passed Pawns, Promotion, and Other Pawn Tactics



Overview

Lesson 14 of the curriculum focuses on the most underrated fighters in a game: the Pawns! While Pawns are not worth as much point-wise as any other piece on the board, they have unique abilities that become especially important in the Endgame. Since each player begins a game with eight Pawns, there are likely to be at least a couple of Pawns left for each player as the game progresses and the clock winds down. This makes mastery of the “little guys” significant to a chess player’s success. This lesson highlights effective use of Pawns in the Endgame, while displaying examples of when and how to promote Pawns in the Endgame to other pieces.

Part 1 teaches students what a passed Pawn is and how that one extra point of material can win them the game. It emphasizes the three types of passed Pawn advantages a player can obtain in an Endgame: an outside passed Pawn, a protected passed Pawn, and connected passed Pawns. Knowing how to use these types of passed Pawns will enable students to play smarter, more strategic Endgames by increasing their probability of promoting a Pawn for a decisive advantage. Part 2 focuses on a student’s ability to calculate several moves into the future by foreseeing whether an enemy King will be able to catch a passed Pawn before it promotes. It also presents several examples of moments when it is important to consider promoting a Pawn to a piece other than a Queen—known as under-promotion—to avoid problems such as stalemate.

The Practice Pages and Classroom Activities are especially important in this lesson because they encourage mastery of tough Endgame techniques. Since there are hundreds of possible Pawn endgames, knowing these basic Pawn Endgame concepts is critical for a player who is likely to find him or herself in a Pawn Endgame rather frequently. These principles, including the ability to visualize the board, see patterns, and calculate several moves ahead, align with the Common Core State Standards: Geometry (K-5). With this knowledge, students will feel confident that they can win in the Endgame, even with an advantage as small as a single Pawn.

Teacher's Guide

Learning to recognize and utilize the power of a passed Pawn is a huge step for every beginning chess player. This lesson will not only teach your students to appreciate the importance of Pawn promotion, but also the value of every Pawn they win and lose throughout their games. Once a beginning chess player begins converting victories simply because of one or two extra Pawns, he or she will start placing more value on Pawns right from the start of the game. Your students will no longer be giving their “little guys” away without concern!

We have included a Practice Page mini-game handout to be used along with the curriculum about outside passed Pawns. The mini-game, “Converting Your Passers,” will also drive home the tactical principle of Decoy.

A coach/instructor may choose to break after Part 1, Diagram 3, to allow time for students to practice these concepts. An important hint for children struggling with the more difficult stages of the Converting Your Passers mini-game is to remind them that activation of the White King toward the enemy Pawns is important, and sometimes should be the first step when converting an outside passed Pawn advantage into a victory.

Practical Notes and Advice—Lesson 14

- In order to show the true value of a protected passed Pawn (using the position from Part 1, Diagram 4), a coach should walk the White King over to the h-file and proceed to wander with the White King to random squares, back and forth, before moving forward to win on the Queenside. This will highlight further that the Black King is completely stuck to guarding the passed b-Pawn.
- A coach should make sure to emphasize that under-promoting your Pawns to any piece other than a Queen is only for special circumstances, like the examples given (Part 2) and the Practice Pages associated with the lesson.
- Students will learn the Rule of the Square concept faster if they realize that when the King is inside the square, his quickest path (diagonally b4-f8 for example in Part 2, Diagram 7) to the Queening square is never more than the number of moves it would take the Pawn to reach the Queening square.

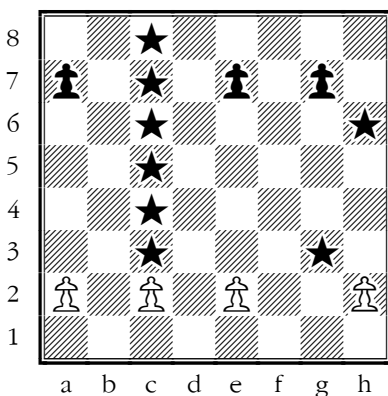
Lesson 14

Part 1: Introduction to Passed Pawns and Basic Pawn Play Strategy

Key Concepts

- What is a passed Pawn?
- The Big Three passed Pawn advantages:
 - Advantage #1: outside passed Pawn.
 - Advantage #2: protected passed Pawn.
 - Advantage #3: connected passed Pawns or connected passers.

Passed Pawns must be pushed! With a clear path, nothing can stop the Pawn.



Passed Pawns have a clear path to their goal of promotion.

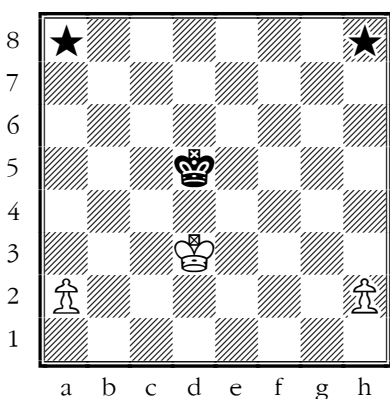
A *passed Pawn* is a Pawn that has no opposing (enemy) Pawns to deal with, neither on its own file in front of it nor on the files next to it. As in our example diagram, the c-Pawn is the only passer on the board for either White or Black, and can easily advance to the Queening square (c8) without fear of capture or blockade by an opponent's Pawn.

The ultimate goal of a passed Pawn is to reach the other side of the board (eighth rank for White or first rank for Black) and promote to a bigger piece. Usually, a Pawn will promote to a Queen, as that is the most valuable piece; however, certain occasions will call for under-promotion (promotion to a piece other than the Queen).

Essential Question, Level II: Comprehension

Can you explain in your own words why a passed Pawn is more valuable than other Pawns in the Endgame?

Two passed Pawns are better than one, which is no fun for an enemy King.



There is no way Back can stop both White's Pawns.

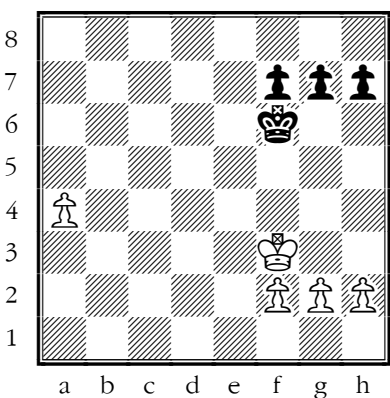
Cases of under-promotion will be discussed in Part 2. For now, let's discuss one more basic example of the power of a passed Pawn and work our way toward understanding why the big three mentioned in the Key Concepts are such strong forces in a practical game.

Here we see a position where the Black King stands no chance against the two passed a- and h-Pawns. After 1.h4, for example, the Black King will have to commit to the h-Pawn, and after a few obvious moves it becomes clear that the two Pawns are too much: 1...Ke5 2.h5 Kf5 3.a4! Kg5 4.a5 Kxh5 5.a6 and White's a-Pawn Queens on a8.

Essential Question, Level II: Comprehension

Does it matter which Pawn White moves? Can you explain why it does or does not matter?

Passed Pawn advantage #1: the outside passed Pawn.



After distracting the Black King, White's King moves in for the kill on the Kingside.

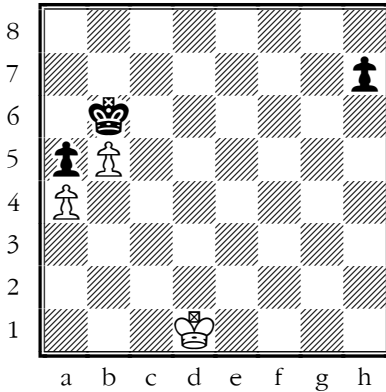
Now that we understand the raw power of a passed Pawn, it's time to learn a few practical and super-deadly ways to use them. An outside passed Pawn is defined as a passed Pawn that is far away (usually at least three files) from the rest of the Pawns (or Pawn groups) remaining on the board.

Typically, an outside passer is used as a decoy to distract the enemy King away from what matters most: protecting his army! With Black to play, the King is just in time to catch the a-Pawn, but that isn't good enough to save the game after 1...Ke6 2.a5! Kd6 3.a6 Kc6 4.a7 Kb7 5.Ke4! Kxa7 6.Kd5 Kb6 7.Kd6!, and the Black King is cut off. White will continue 8.Ke7 and then start capturing Black's Pawns.

Essential Question, Level III: Application

What elements could you change about this position to improve Black's chances (add Pawns, improve the King, etc.)?

Passed Pawn advantage #2: the protected passed Pawn.



Black's King is doomed to a life of blockading the passed Pawn on b5.

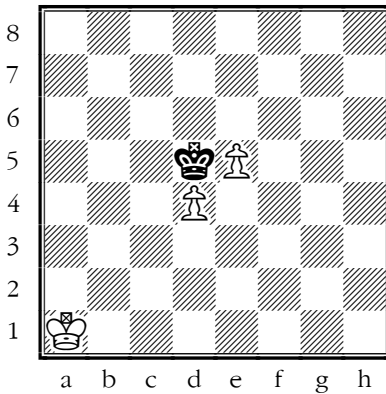
Perhaps the most powerful advantage a player can have in a King and Pawn ending (besides being ahead material) is a protected passed Pawn. A protected passer is a passed Pawn that is defended by another Pawn, making it impossible to remove without first removing the defender.

As you can see from this position, the b5-Pawn is passed, but even more importantly, it's protected by the un-removable a4-Pawn. For example, if the Black King ever tries to attack the a4-Pawn with 1...Kc5-b4, the b-Pawn pushes forward and cannot be stopped. White's King, on the other hand, can make the long journey to the other side of the board and capture the unprotected h-Pawn before making his way to the Queenside to help the b-Pawn advance and eventually promote on b8.

Essential Question, Level III: Application

Using what you've learned, can you make the right moves for White to win this game? Can you explain your plan in your own words, and use Algebraic Notation where needed?

Passed Pawn advantage #3: connected passed Pawns.



Like a protected passed Pawn, connected passers can't be taken.

Connected passed Pawns are extremely strong in any type of position, but their powers are highlighted most clearly in the Endgame. Here we see a position where the d4-Pawn is serving as the protector of the e5-Pawn. The Black King can do nothing to change this situation, as capturing d4 would only allow the e-Pawn to advance and promote.

Black's King is at the mercy of the Pawns, and must blockade them until the White King joins the fight and inevitably helps his Pawns advance and win. 1.Kb2 Ke6 2.Kc3 Kd5 3.Kd3 Ke6 4.Ke4 Ke7 5.d5 Kd7 6.e6+ Kd6 7.Kf5 Ke7 8.Ke5 Ke8 9.d6 Kd8 10.e7+ Kd7 11.Kf6 Ke8 12.d7+! Kxd7 13.Kf7, and next will come 14.e8=Queen.

Essential Question, Level IV: Analysis

What is the function of the Black King remaining next to those two Pawns in this Endgame? Why must he try to prevent them from moving forward?

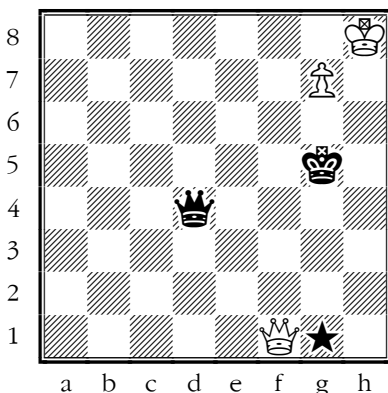
Part 2: Under-promotion, Pawn Tactics, and the Rule of the Square

Key Concepts

- More practical passed Pawn lessons.
- Promotion and under-promotion tactics.
- The Rule of the Square.

The focused reader will recognize our first two promotion tactics as repeated ideas from Lesson 10, Part 3 (Skewer) as well as Lesson 12 (Decoy and Attraction). Here we revisit these important patterns to reinforce recognition of these critical and common Endgame tactics.

Passed Pawn promotion tactics, example 1: the decoy sacrifice skewer.



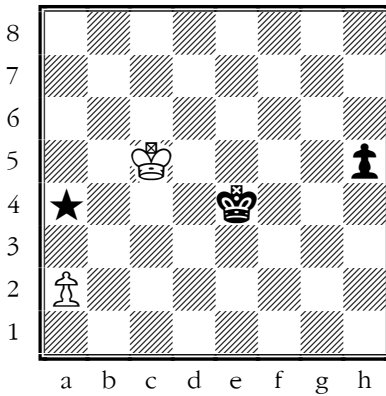
Understanding the basic goal of a passed Pawn (to promote) is simple enough, but what types of positions and tactical hurdles might a player come across in a practical game? In Part 2 of this lesson, we have assembled several commonly seen and highly useful tactical patterns.

Because it is natural to promote a Pawn to a Queen, or maybe a Rook, as they are the most powerful, there often occur positions where a skewer tactic (see Lesson 10) exists at the end of a combination of moves. Here White is winning easily after the brilliant Queen sacrifice on g1. This decoy attracts the Black Queen to a bad square: 1...Qxg1 2.g8=Queen+ wins the Black Queen!

Essential Question, Level III: Application

Given the information you now know, how would you try to solve a promotion tactic where your Pawn was one square from Queening, but was pinned from moving forward?

Passed Pawn promotion tactics, example 2: the Pawn race skewer.



This common skewer trick occurs in many different types of Pawn races.

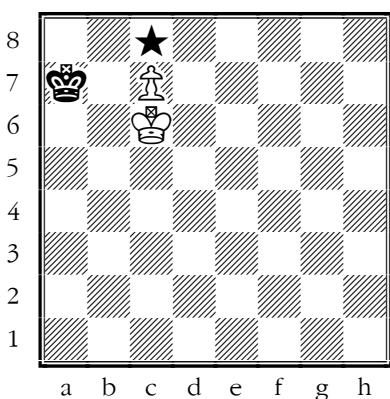
Here we see perhaps the most famous example of a promotion skewer tactic. At the end of a long and forced sequence of moves, White is winning in this position because of the awkward placement of the Black King. After 1.a4! by White, the Pawns are off to the races.

Black must continue with 1...h4, as any King move would leave him one move behind in the race. For example, 1...Ke3 allows 2.a5 h4 3.a6 h3 4.a7 h2 and 5.a8=Queen guarding the h1-square. After Black's forced 1...h4, White wins in the end, with 2.a5 h3 3.a6 h2 4.a7 h1=Queen 5.a8=Queen+, and the Black King is skewered to the Queen on h1. After the King moves to any legal square, White wins the Black Queen and the game with 6.Qxh1!

Essential Question, Level III: Application

Explain in two paragraphs or less: what is the most important element in deciding who will win a Pawn race in the Endgame?

Under-promotion, example 1: Queen stalemates, but Rook checkmates.



Under-promotion, though not common, is very useful when needed.

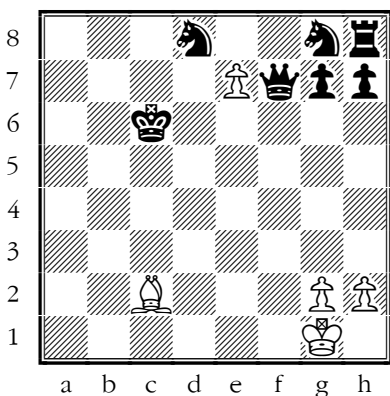
Here we see a perfect example position to introduce us to the concept of under-promotion. Any time you promote your Pawn to a piece other than a Queen, you are under-promoting. In this example, 1.c8=Queen?? would stalemate the Black King, ending the game in a draw.

Advancing the Pawn to promote to a Rook (generally the first choice after a Queen) would not only avoid stalemate in this position, but end the game two moves later: 1.c8=Rook! Ka6 2.Ra8 checkmate. Note that promotion to any other piece (Knight or Bishop) would also lead to a forced draw, due to the inability to checkmate with only one minor piece on the board.

Essential Question, Level III: Application

How would you show the importance of under-promotion in avoiding stalemate to a new chess player?

Under-promotion, example 2: the power of an under-promotion fork.



This was a study by former World Champion Emanuel Lasker.

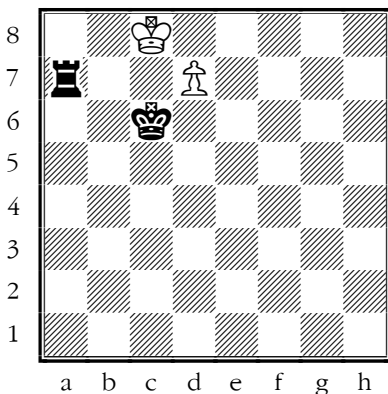
Under-promotion to avoid stalemating your opponent in a winning position is critical; however, just as interesting are cases where under-promotion can take an otherwise losing position to an unclear or perhaps even winning position. Example 2 is one of those times.

1.exd8=Knight is an extremely strong under-promotion that immediately forks (see Lesson 9) Black's King on c6 and Queen on f7. After Black's King moves (forced), White will continue 2.Nxf7 and 3.Nxh8! In the end, White will have gone from being down a Queen, Knight, and Rook to being ahead a piece. Note that 1.exd8=Queen would have been an improvement, but still left White down lots of material.

Essential Question, Level III: Application

Apply what you have learned to explain the effectiveness of under-promoting to a Knight in this position.

Under-promotion, example 3: defensive under-promotion.



1.d8=Knight with check is the only way for White to save the game.

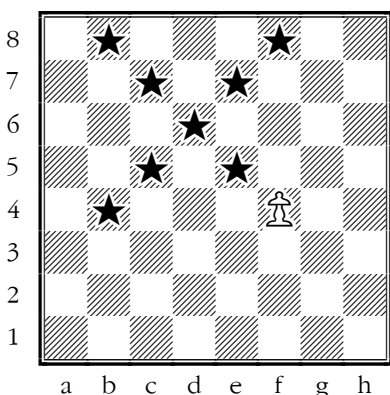
There are loads of possible examples of defensive under-promotion. Some lead to immediate stalemate in otherwise lost positions, while others create a perpetual check. Here we have selected a very common, and therefore practical, example of under-promotion defense.

This position is the climax of a very common Endgame resulting from a passed Pawn race, in which White is striving to promote the d-Pawn and fight against the Black Rook. Here Black's King has moved in for the kill, so White's only chance to continue the game is 1.d8=Knight with check (which is a draw in theory) as promoting to any other piece, including the Queen, would allow 1...Ra8 mate!

Essential Question, Level III: Application

How would you make use of this information to stalemate or draw an otherwise losing position in your own games?

The Rule of the Square, example 1: "x" marks the box.



In some cases, the rule of the square creates a perfect "X" on the board.

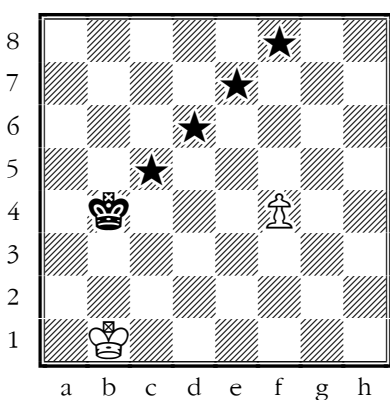
The Rule of the Square defined: if the enemy King (in this case, Black) is within the imaginary square or box of the Pawn, then the King can catch the Pawn before it promotes, regardless of whose turn it is to move. If the King is not within the box, King Pawn can promote without the support of its King, i.e., the Pawn runs free.

When we draw lines from the starting square of the Pawn (f4) to b4, b8, f8, and back to f4, we have created a square. When playing an Endgame with passed Pawns, quickly calculate whether or not your opponent's King is within, or can get within on his or her move, the square. The imaginary "X" drawn from f4-b8 and b4-f8 represents the quickest path for the enemy King to catch the f-Pawn.

Essential Question, Level III: Application

What approach would you use in a King and Pawn Endgame to make sure your King remained in the imaginary square or box?

The Rule of the Square, example 2: within the box, the Pawn is stopped.



Here we see how easily the Black King catches the White Pawn.

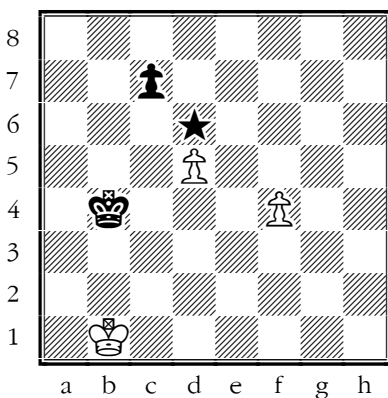
Moving along the a3-f8 diagonal, the Black King catches the White Pawn even with White to move. With White's King standing no chance to help his f-Pawn before the Black King reaches it, White has no better plan then to continue: 1.f5 Kc5 2.f6 Kd6 3.f7 Ke7, and the Pawn is taken by Black. The game is now drawn.

Hopefully, these first two example diagrams of the Rule of the Square have clearly displayed the quick way to find out whether an enemy King can catch a passed Pawn. The Rule of the Square can be applied to any Pawn, because the rule is simple: the enemy King is either in the square and can catch the Pawn, or it is not, and it cannot stop the Pawn.

Essential Question, Level III: Application

What questions would you ask yourself to help you reach your goal of stopping the enemy Pawn?

The Rule of the Square, example 3: tactical ideas that wreck the box.



1.d6! destroys Black's clear path and wins easily with the f-Pawn.

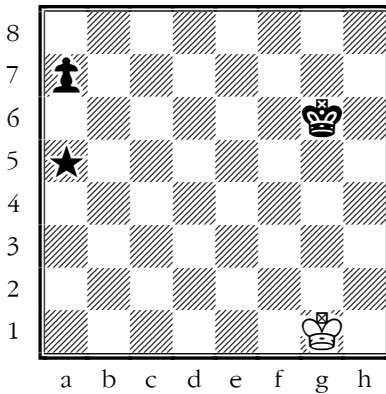
This common tactical pattern can occur in King and Pawn endings that involve the Rule of the Square. White could advance his f-Pawn immediately, but the square rule tells us the Black King can catch the Pawn. Furthermore, the White King is still useless. What else can White try in this position to block the Black King path to the f-Pawn?

The winning move, as mentioned beneath our diagram, is 1.d6! This move forces 1...cxd6, as otherwise the d-Pawn Queens, and after 2.f5 Kc5 3.f6, the Black King is denied the d6-square by his own Pawn. White's d-Pawn was used as a decoy to disrupt Black's "X" and clear a path within the square. White will play 4.f7 and Queen the Pawn, winning.

Essential Question, Level III: Application

If Black's King were already one square closer on c5 to start the position, would the tactic of 1.d6! still work? Explain your answer.

Exception to the Rule of the Square.



*Be careful not to forget
that Pawns can move
twice on their first move,
even in the Endgame.*

The one very important exception to the Rule of the Square involves another rule in chess. In this case, we remember the fact that a Pawn, on its first move, can move two squares rather than one.

In this position, moving the Black Pawn to a6 would allow 2.Kf1, where White is now drawing, entering the square and catching the Pawn.

However, Black wins with the move 1...a5!, jumping ahead of the White King's race to catch him. After 2.Kf1 a4 3.Ke1 a3 4.Kd1 a2 5.Kc2 a1=Queen, Black wins.

Essential Question, Level III: Application

If it wasn't for the rule that Pawns can move two squares on their first move, would this exception to the Rule of the Square be possible? Explain your answer.

Lesson 14 Summary and Linking Content to Standards

In Lesson 14, students learned just how powerful the “little guys” can be. While Pawns may not have much material value on their own, they become much stronger in the Endgame, because they threaten to promote, and sometimes they are all a player has left with which to try and win the game. Even when there are fewer pieces left on the board, calculating several moves ahead can be tricky, and students were forced to put their analysis to the test in calculating how and whether a Pawn can safely promote. These skills align with the Common Core State Standards: Geometry (K-5), by enabling core critical-thinking skills and crucial pattern recognition.

Students first learned the three different types of passed Pawn advantages they can use in the Endgame. They saw examples of outside passed Pawns, protected passed Pawns, and connected passed Pawns, and were presented with different ways to use these Pawn structures to their benefit. Additionally, students were taught the importance of under-promotion, or promoting a Pawn to a piece other than the Queen, such as a Rook, to avoid a stalemate. Students also were taught the Rule of the Square, a concept that allows students to easily calculate whether a Pawn will be able to promote safely, or whether it will be stopped by the opponent’s King.

Finally, students are able to build on Endgame skills they have already learned in the curriculum. If a student is able to promote a single Pawn to a Rook or Queen, he or she will then use the Rook and King or Queen and King checkmate to defeat her or his opponent. Students are building on their foundational knowledge and are now able to play more complicated chess games.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

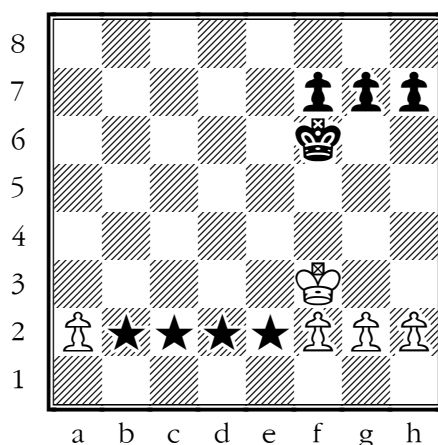
Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Mini-game: Converting your passers



Rules/goal: White to move and win the game.

Level 1

(Easy): ♔ ♔ ♔ ♔ ♔ with outside passed a2-Pawn versus Black's position in diagram

Level 2

(Beginner): ♔ ♔ ♔ ♔ ♔ with outside passed b2-Pawn versus Black's position in diagram

Level 3

(Medium): ♔ ♔ ♔ ♔ ♔ with outside passed c2-Pawn versus Black's position in diagram

Level 4

(Hard): ♔ ♔ ♔ ♔ ♔ with outside passed d2-Pawn versus Black's position in diagram

Level 5

(Expert): ♔ ♔ ♔ ♔ ♔ with outside passed e2-Pawn versus Black's position in diagram

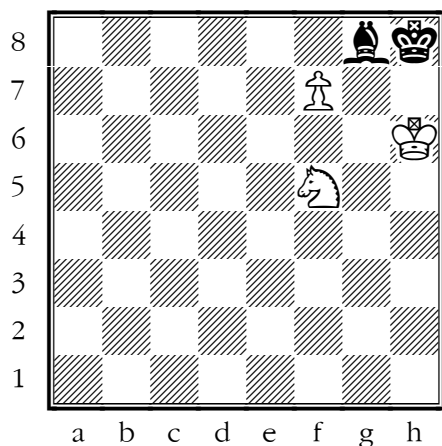
Converting your outside passer: tips to the game

- Remember to use your King, too! The goal of the position is not necessarily to Queen your outside passer, but to use it as a way to distract the enemy King away from his Pawns.
- In Level 5, you must first create your passed Pawn by exchanging Pawns on the e-file. Your e-Pawn is known as a "pretender," because even though there are no enemy Pawns along the e-file directly in his way, he isn't a real passed Pawn until he receives the help of his buddy (the f-Pawn) and exchanges with Black's f7-Pawn to create a passer on the e-file. Advance the e- and f-Pawn together as teammates.
- Play with a partner or your coach, and rotate colors as each side completes a level.
- To make the game real tough (and more fun), play touch move with your partner and learn to play by tournament rules. Always think before you touch your pieces!

Practice Pages

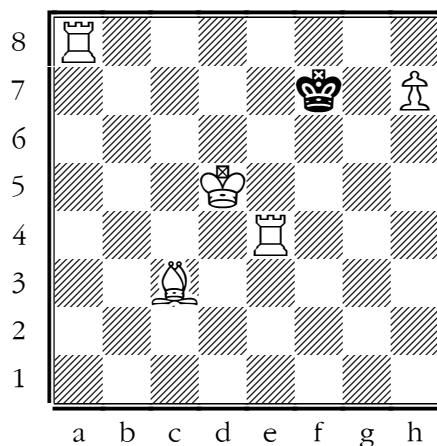
Practice 1: To under-promote or not

The following diagrams contain examples of promotion or under-promotion.
 Read the diagram caption and circle "promote" (for a Queen) or "under-promote."
 For bonus points, write the name of the piece you would promote to.



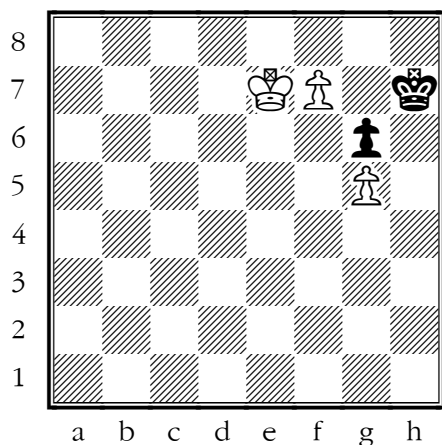
White has forced checkmate in three.

Promote Under-promote



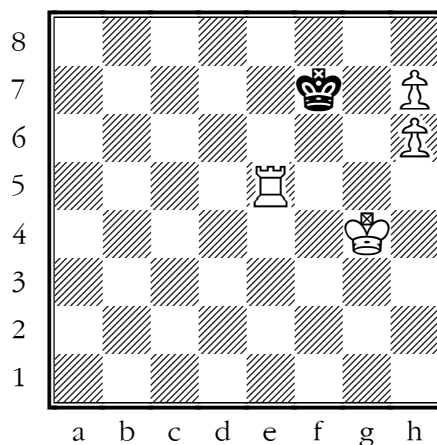
White has forced checkmate in three.

Promote Under-promote



White has forced checkmate in three.

Promote Under-promote



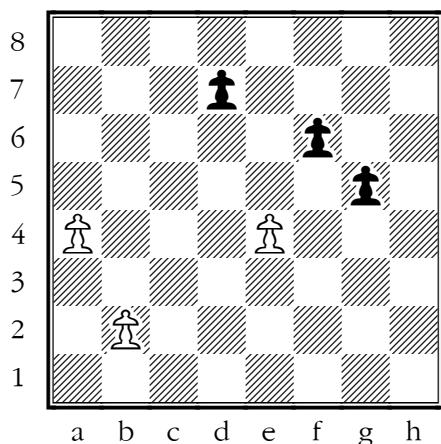
White has forced checkmate in three.

Promote Under-promote

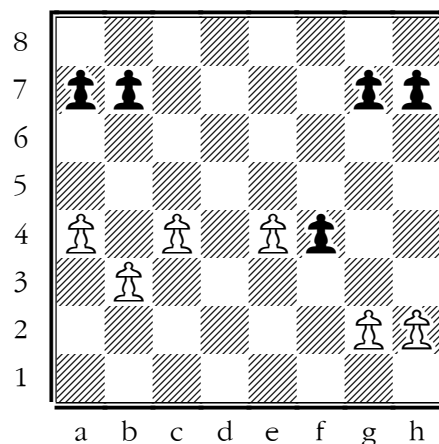
Practice 2: Circle the passed Pawns

Circle all the passed Pawns you can find, for both White and Black.

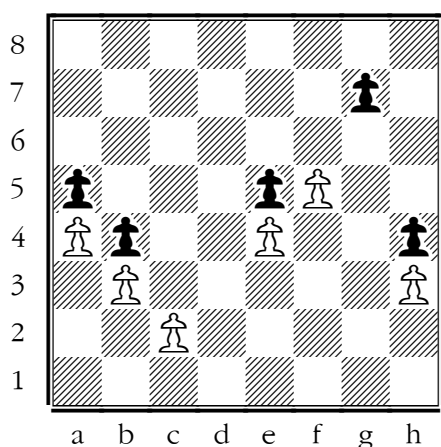
Count every passed Pawn and write how many you found beneath the diagram.



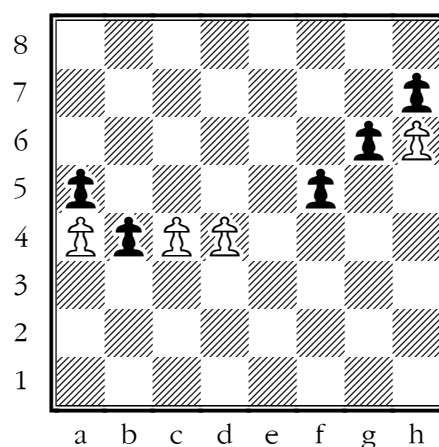
How many passed Pawns are there?
Number of passed Pawns: _____



How many passed Pawns are there?
Number of passed Pawns: _____



How many passed Pawns are there?
Number of passed Pawns: _____



How many passed Pawns are there?
Number of passed Pawns: _____

Answer Key

Practice Page 1: To under-promote or not

Diagram #1 Under-Promote: 1.f8=B! Bg8 anywhere 2.Ne7 Black Bishop anywhere 3.Bg7#!

Diagram #2 Under-Promote: 1.f8=R! is best. 1.f8=N or 1.f8=B are also good.

Diagram #3 Under-Promote: 1.h8=N!! checkmate.

Diagram #4 Promote: 1.h8=Q! Kg6 2.Qg7 checkmate.

Practice Page 2: Circle the passed Pawns

Diagram #1 Three passed Pawns: a4, b2, and g5.

Diagram #2 One passed Pawn: e4.

Diagram #3 No passed Pawns.

Diagram #4 Five passed Pawns: b4, c4, d4, f5, and g6.

Classroom Activities

Activity 1: Converting your passers

Activity goal: Practicing Pawn Endgame techniques, reinforcing basic understanding of outside, protected, and connected passed Pawn strategy, reinforcing ideas related to the Rule of the Square. (Parts 1 - 2)

Geometry: CCSS.Math.Content. G.A.1 (K-5)

Instructions

- See mini-game handout.

Activity 2: The Pawn game

Activity goal: Practicing Pawn Endgame techniques, reinforcing basic understanding of outside, protected, and connected passed Pawn strategy, reinforcing ideas related to the Rule of the Square. (Parts 1 – 2)

Geometry: CCSS.Math.Content. G.A.1 (K-5)

Instructions

- Set up chess boards and sets and pair students.
- Have students remove all the Rooks, Knights, Bishops, and Queens from the board, leaving only the Pawns and the Kings.
- Have students play one another in a Pawn game. Their goal is to try to win by promoting one of their Pawns and using their knowledge of how to checkmate to finish the game.
- Have students try this with different partners and opponents.

If time allows, have the students as a group play the coach/teacher in a Pawn game on the demo board. Coach/Teacher can start with a disadvantage, such as removing two Pawns, three Pawns, etc.

LESSON 15

Lesson 15: Opposition and Advanced King Play



Overview

Lesson 15 focuses on *opposition*, and how it can be used as a tool to win King and Pawn Endgames. This lesson highlights effective use of opposition, including standard opposition, distant opposition and irregular opposition, while presenting examples of how to use opposition as a winning Endgame instrument.

Part 1 teaches students about opposition through common King and Pawn Endgame examples. Opposition is often the exact tool needed to reach the goal of winning a King and Pawn Endgame and preventing a draw. Part 1 highlights examples of typical opposition ideas, as well as a few trickier techniques such as Walking the Dog. Part 2 shows students how to calculate several moves into the future by understanding distant opposition. As the Kings move closer to one another, it is important for a student to be able to recognize which player has opposition. Being able to force your opponent into opposition or avoid opposition yourself is critical to a successful Endgame strategy. Part 3 emphasizes some unusual examples of opposition, such as the King Dance, and shows how these irregular ideas can be used in devastating fashion.

The Practice Pages and Classroom Activities are key to mastering the complicated opposition theory in this lesson. Since the Kings will likely start far away from one another when players enter an Endgame, being able to calculate and understand opposition as early as possible in the Endgame is critical, because all players are likely to find themselves in a variety of Pawn Endgames. These ideas, of visualizing a goal position and using opposition as a tool to reach that goal, align with the Common Core State Standards: Geometry (angles, lines, shapes, coordinates). With this knowledge students will be able to navigate even the trickiest King and Pawn Endgames.

Teacher's Guide

The importance of understanding King and Pawn endings, from the most basic examples of “King on the Sixth, Pawn on the Fifth” to the advanced positions of distant and irregular opposition, should never be underestimated. Players who skip these important steps will find themselves ill-equipped when trying to solve and play more complicated Endgames with minor pieces and Rooks.

Essentially, a chess player's ability to make the right decision in many other types of positions is often based on their knowledge of the ensuing (upcoming) Endgame. This is because all pieces (other than the King) can be lost or exchanged for one another; therefore, there is always the potential for any Endgame to come down to a King and Pawn ending. The only way for a beginning chess player, especially a child, to master King and Pawn endings is through deliberate and repeated practice of the basics, as well as experience in solving the more complex examples in the diagrams and puzzles.

Because there truly is no easy transition from the basic concepts of opposition to the more advanced, make sure your students genuinely understand all the fundamentals of Part 1 before moving on to distant (Part 2) and eventually irregular (Part 3) examples of opposition and advanced King play. Use the Practice Pages during the instruction process.

Practical Notes and Advice—Lesson 15

- Have your student(s) practice the three-step pattern explained in Part 1. Try the Pawn on different files so that the student can see for him or herself that this technique, culminating in “King on the sixth, Pawn on the fifth,” works with every Pawn except the Rook Pawn.
- Students will often make the mistake of advancing the Pawn too early, either allowing the enemy King to take defensive opposition, or advancing the Pawn in front of their King, thus allowing the drawing methods explained in Parts 1 and 2 to occur. This is common and requires practice to overcome.
- Let students learn from experience that advancing the Pawn carelessly and neglecting their ultimate goal position doesn't work. Then remind them of the winning technique and ask them to follow the rules and principles learned in this lesson and others. The defender should eventually try moving to the side file (see the “Bonus Position” of Part 1).

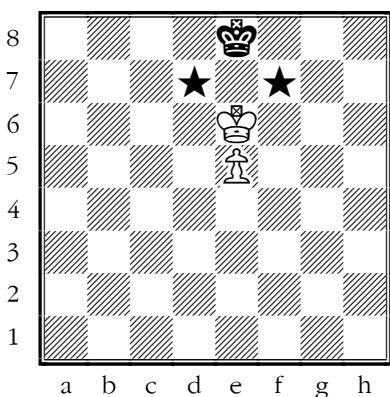
Lesson 15

Part 1: Opposition Explained with Basic King and Pawn Endings

Key Concepts

- Basic King and Pawn play.
- The goal of every King and Pawn ending: “King on the Sixth, Pawn on the Fifth.”
- What is opposition?
- Defensive opposition and other King and Pawn ending drawing methods.

Step 1. The goal: King on the sixth, Pawn on the fifth always wins the game.



“King on the sixth, Pawn on the fifth” always wins the game.

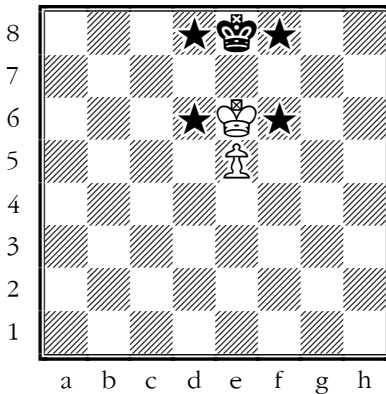
The most important factor in being a good Endgame player is to have a goal or a long-term plan in mind. When it comes to King and Pawn endings, “King on the Sixth, Pawn on the Fifth” is your ultimate goal, because it is a winning position regardless of whose turn to move.

A simple example has Black to move. Here, Black is in Opposition, which means the King is being opposed and must move, thus giving White the winning square for the King: 1...Kd8 allows 2.Kf7! followed by 3.e6, 4.e7 and e8=Queen; 1...Kf8 allows 2.Kd7 and the Pawn goes marching on once again along the e-file.

Essential Question, Level I: Knowledge

How would you explain to a new chess player that White must promote the e-Pawn in order to win the game?

Step 1. The goal, continued: White wins even when Black has the opposition.



*White wins, even with
Black controlling the
opposition.*

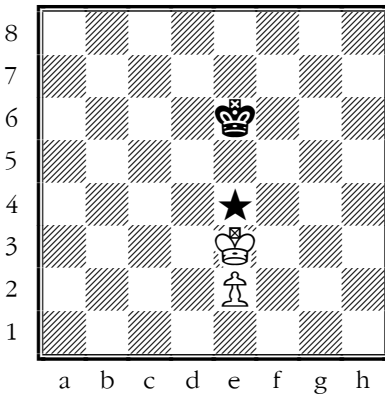
With White to play, Black controls the opposition. Though the position is slightly more complex, it is still a win for White. White must sidestep to either f6 or d6, and Black will move directly in front of White, maintaining the opposition, thereby preventing the White King from leading the way.

Usually the King should lead the Pawn, as we will explain in more detail later; however, that rule can be broken only in this position (i.e., the rule of keeping the Pawn behind the King can be broken only after we reached our goal position of “King on the sixth, Pawn on the fifth”): 1.Kf6 Kf8 2.e6! Ke8 3.e7 Kd7 (the only move, as Black is in zugzwang) and 4...Kf7 followed by 5.e8=Queen, winning. The Black King was squeezed out of the e8-square via zugzwang. 1.Kd6 was also winning via the same pattern of advancing the Pawn, and finally 4.Kd7.

Essential Question, Level I: Knowledge

Can you explain to one of your classmates, collaborating when needed, why White wins every time in this position, even when White does not have the opposition?

Step 2. The tool: opposition is the tool used to reach your ultimate goal.



White plays 1.Ke4!, taking the opposition and forcing Black to lose ground.

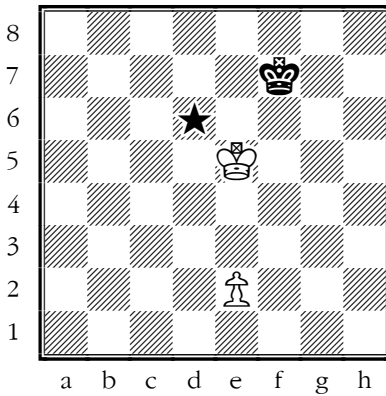
The best study method to use when learning Endgame patterns is to start with the goal position, and then move backwards in time to determine how you might actually reach that position in a real game. Here we see opposition in action as the tool used to reach our goal position in Step 1.

After 1.Ke4, Black is in opposition and must surrender territory. Black is in zugzwang, because if the King could stay on the e-file forever, White would have no way to advance the Pawn or make progress. However, after the forced 1...Kd6 (or 1...Kf6) White continues 2.Kf5 Ke7 3.Ke5!, regaining the opposition. This pattern repeats.

Essential Question, Level I: Knowledge

Can you tell why it's important to keep the goal position in mind when you're planning ahead?

Step 2. The tool, continued: the King must lead his Pawn until the right time.



More on sidestepping in the final part of this lesson, but for now: if Black played 4...Kf6 instead of 4...Ke8, White still wins with 5.e4 Kf7 6.e5 Ke8 and then reaches the critical 7.Ke6!, our goal position.

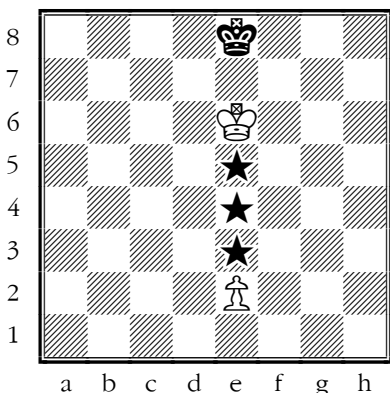
In keeping with our ultimate goal, the White King continues to make progress along the e-file. White leads with the King and need not use the Pawn until the King has reached its goal square on e6. Please see drawing example 2 to learn the consequences of moving the Pawn too early and returning the defensive opposition to Black.

After 4.Kd6!, we see the winning pattern in action: oppose the enemy King along the e-file (the same file as the Pawn), and then take whichever square the Black King gives up. After 4.Kd6!, Black must once again move back to the all-important e-file—4...Ke8—and White reaches the goal square with 5.Ke6.

Essential Question, Level I: Knowledge

Can you think of any real-life examples where two elements or people are opposed to one another?

Step 3. Finish the job: the Pawn goes marching on...



White wins by moving the Pawn to e5. If you need to review “King on the 6th, Pawn on the 5th,” please go back up to the first diagram(s).

Once the White King has reached his goal square (the sixth rank on the same file as the Pawn), the remaining moves are obvious, and an easy matter of technique. The Pawn will move from e2-e5, achieving “King on the sixth, Pawn on the fifth,” and the game is over, no matter whose turn it is.

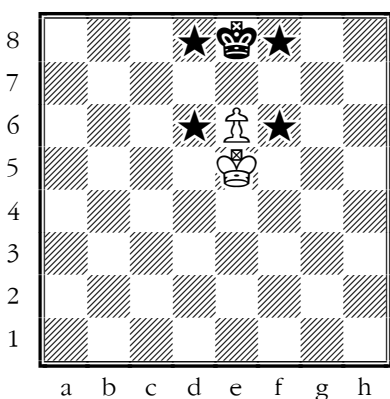
The three-step approach provided in this lesson—

- 1) recognize your goal position
 - 2) use opposition as the tool to achieve your goal, leading the way with the King
 - 3) follow with the Pawn to the finish line
- is a winning technique that works with every Pawn *except* the corner Pawn or Rook Pawn. (See Drawing Example 3 for more information on why the Rook Pawn leads to a draw.)

Essential Question, Level I: Knowledge

Using what you’ve learned so far about opposition being the tool needed to help your Pawn advance and promote, can you assess why the Rook Pawn will offer fewer winning chances for White?

Drawing example 1. The basic draw: never lead with the Pawn.



Black's last move: 1...Ke7-e8, and Black is waiting to gain the opposition.

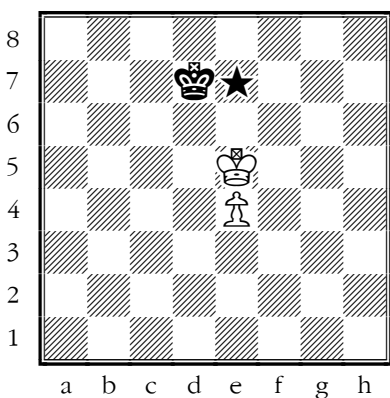
As mentioned in the second diagram of Step 1, the King should always lead the Pawn in this winning technique. As they march up the board toward the ultimate goal of promotion, the basic pattern referenced in Step 1 will not work if the Pawn and King are reversed, i.e., "Pawn on the sixth, and King on the fifth."

Example: after 1...Ke8, White has two attempts at progress, but both will be met by the Black King on the corresponding square (Part 2), and the game will end in a forced draw. After 2.Kf6 Kf8! (2.Kd6 met by 2...Kd8), 3.e7+ (any other White move allows 3...Ke7, and Black simply repeats the pattern with Ke8 next move) 3...Ke8, and after 4.Ke6 (any other move loses the Pawn) Black is sadly stalemated.

Essential Question, Level II: Comprehension

Do you understand why it is important for Black to retreat the King to e8 and gain the opposition on either Kd6 or Kf6 by White? Explain.

Drawing example 2. Defensive opposition continued.



If Black can force White's Pawn to lead, the Black King can hold a draw.

Knowing that a defender can hold a draw by moving straight back from the Pawn and waiting for opposition on the corresponding square (drawing example 1, above), we now see why the White King must lead his Pawn. Because of this, White must also prevent defensive opposition that blocks the White King from doing so.

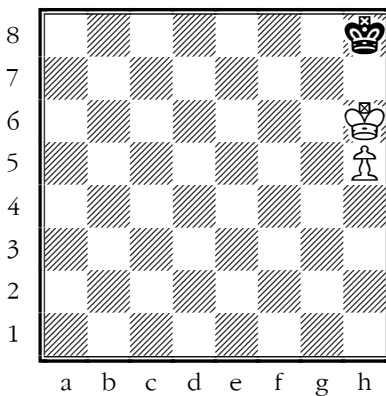
This diagram highlights what would happen if Black were to gain the opposition. (Note that if it were White's turn, 1.Kf6 wins easily, according to the winning method used in Steps 2 and 3.) Black plays 1...Ke7!, and after 2.Kf5 Kf7! 3.e5 (the only move that makes progress) 3...Ke7! 4.e6 (if 4.Ke4 then 4...Ke6 holds the opposition) and 4...Ke8! the game is drawn.

The position has transposed to the one reached in the previous diagram.

Essential Question, Level II: Comprehension

Explain in your own words what is happening in the diagram and how Black can draw.

Drawing example 3. The Rook Pawn draw: the enemy King holds the corner.



The Black King cannot be forced away from the corner.

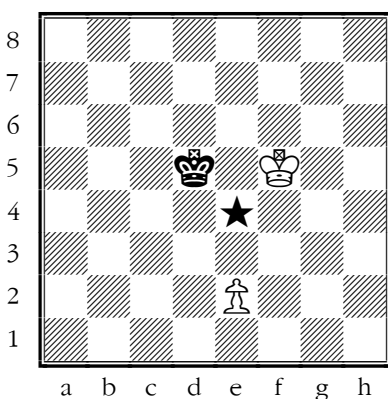
Our final example of the basic King and Pawn ending draws is the study of Rook Pawns. The ultimate goal position ("King on the sixth, Pawn on the fifth") is ineffective when advancing the corner Pawn, because the enemy King (in this case Black) is not forced to make a choice, as he normally is when faced with the opposition.

Here Black can simply play 1...Kg8, and there is no "i" file for White! After 2.Kg6 Kh8 3.h6 Kg8 4.h7+ Kh8, White will stalemate Black with 5.Kh6, or surrender the Pawn with any other King move.

Essential Question, Level II: Comprehension

How would you compare and contrast a King's decisions in a Rook Pawn Endgame with a King's decisions in an Endgame, where the Pawn is in or near the center of the board?

Sidestepping the opposition: the “walking the Pawn dog” winning technique.



Sidestepping the Pawn's file, in an attempt to avoid the tool used in Step 2, does not help Black's draw the ending. White wins by leading and protecting the Pawn as it moves up the board.

Not discussed in the diagrams of Step 2 is what happens when the defending King chooses to sidestep the e-file, thus avoiding giving White direct opposition. Our current position could have occurred if Black chose 2...Kd5 instead of 2...Ke7 in the first diagram of Step 2. As long as White maintains the rule of keeping the Pawn behind the King (mentioned in drawing example 1 and explained further in Part 2), White should be able to advance the Pawn alongside the King and up the e-file, eventually promoting.

The White King leads the Pawn, “walking the Pawn like a dog,” toward the promotion square e8. After 1.e4+! Kd6 2.Kf6! (not 2.e5+ as after 2...Ke7, Black is again blocking the e-file, and White will be forced to advance the Pawn, eventually leading to the drawn position discussed in Drawing Example 1: 2...Kd7 3.e5! Kd8. If 3...Ke8, then 4.Ke6, and we have reached “King on the sixth, Pawn on the fifth”: 4.Kf7 Kd7 5.e6+ Kd8 6.e7+ Kd7 7.e8=Queen, winning.

Did you notice how the King used his clear path on the f-file to walk the Pawn up the e-file? Like taking your dog for a nice stroll in the park, the King keeps the e-Pawn on a short leash, and walks alongside him up the e-file. This is a key pattern.

Essential Question, Level II: Comprehension

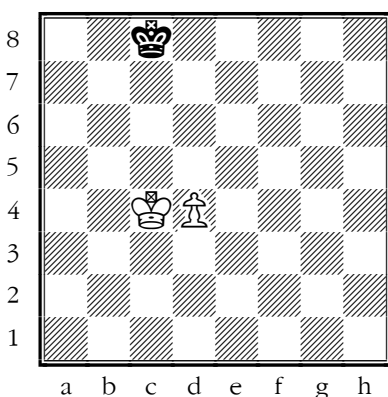
What can you say about White’s Endgame strategy of walking alongside the Pawn as a means to win?

Part 2: Distant Opposition

Key Concepts

- More King and Pawn play.
- More examples of defensive opposition.
- Making waiting moves in King and Pawn endings.
- What are corresponding squares?

Distant opposition, example 1: maintaining enough distance to hold opposition.



White must attempt to make progress with the King first, not the Pawn.

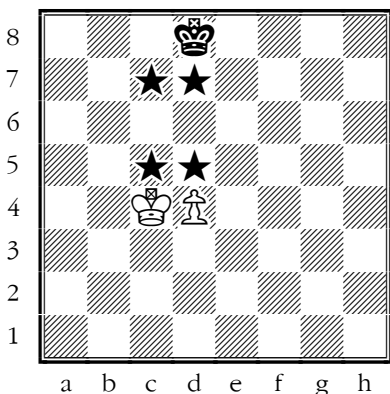
In our first example, the result is a draw with best play, regardless of whose turn it is to move. Though there exist three ranks (fifth, sixth and seventh) between the White and Black Kings, Black is already in control of the distant opposition.

Black's move 1...Kd8! maintains enough distance, and the King is prepared to meet both 2.Kc5 and 2.Kd5 with the opposition (see next diagram). 2.d5 would allow 2...Kd7, and we are now on familiar territory, where White's Pawn has moved in front of the King. After 3.Kc5 Kc7 4.d6+ Kd7 5.Kd5 Kd8, Black is ready to meet White on either 6.Ke6 with 6...Ke8! or on 6.Kc6 with 6...Kc8!, drawing.

Essential Question, Level III: Application

Applying what you have learned so far, can you explain, in two paragraphs or less, what you would need to change about this position for White to be winning?

Distant opposition, example 1, part 2: meeting on the corresponding square.



Black must wait to gain the opposition after White's King advances.

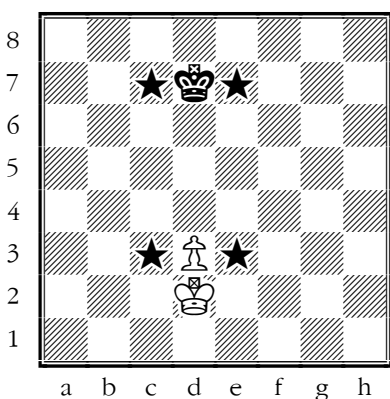
As mentioned in the first diagram, the Black King is prepared to meet both 2.Kc5 and 2.Kd5 on the correct corresponding square. This will prevent White from ever gaining the opposition on the Black King, therefore forcing White's Pawn to lead the way, inevitably ending in a draw.

2.Kc5 is met by 2...Kc7, then 3.Kd5 Kd7 4.Ke5 Ke7, etc. If 2.Kd5 immediately, then 2...Kd7, and Black is maintaining the opposition with the White King. If White continues 3.Ke5 Ke7 4.d5 (the only thing to try is for White to eventually advance the d-Pawn) Kd7 5.d6 Kd8!, once again Black is ready to meet 6.Ke6 with Ke8, and after 7.d7+ Kd8 8.Kd6, stalemates the Black King for a draw. Note that the defending King must always retreat straight back from the Pawn.

Essential Question, Level III: Application

How would you use your knowledge of the obvious goals in King and Pawn Endgames, and of opposition, to explain why Black is easily drawing on the other moves White can play besides 2.Kc5 and 2.Kd5?

Distant opposition, example 2, part 1: recognizing the corresponding square.



Even at further distances, the White Pawn can never lead.

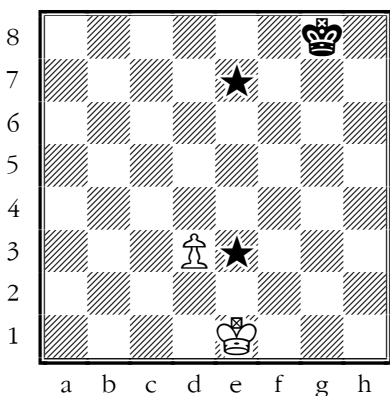
In this position, Black is using the knowledge of corresponding squares to his or her advantage in order to maintain the distant opposition. Black found that the corresponding square to e3 is e7, and c3 is c7. This means that Black will only move to one of these squares after White has chosen a path and moved to the square first.

With the last move, 1...Kd7!, Black recognizes that even at these far distances, he can wait and maintain the opposition! 2.Ke3 is met by 2...Ke7!, while 2.Kc3 is met by 2...Kc7! One example line is 2.Ke3 Ke7 3.Ke4 (if 3.d4, then simply 3...Kd6 and White has lost winning chances by advancing the Pawn ahead) 3...Ke6 4.Kd4 Kd6!, drawing.

Essential Question, Level III: Application

What would be the result if Black did not wait and maintain the distant opposition, moving to e7 or c7 on his first move, instead of 1...Kd7?

Distant opposition, example 2, part 2: finding the corresponding square.



Finding the corresponding square can help you draw a game.

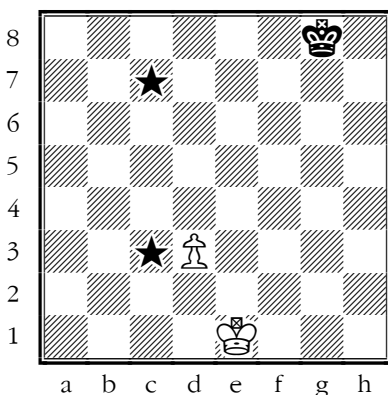
Our next position shows the White Pawn on d3, yet the Kings have changed position. Here we see that if White tries to make progress along the e-file, the King will eventually be met on e3 by the enemy King on the corresponding square, e7. If 1.Ke2 Kf8 2.Ke3 Ke7, White is once again being held back by distant opposition.

Unless a passed Pawn can outrun the enemy King, which the d-Pawn obviously cannot do here, White must find a way to improve the King's position to lead his Pawn to promotion. Remember our idea of sidestepping to walk the Pawn up the board? White must find and recognize the opponent's corresponding squares, and avoid them. White will then have avoided distant opposition.

Essential Question, Level III: Application

How would you solve Black's dilemma of not being able to gain distant opposition? If you could place the Black King on a different starting square besides g8, which square(s) would you choose?

In distant opposition, White wins by avoiding the corresponding square.



Avoid the distant opposition and win the game.

In many cases, the defending King will already be too close to the Pawn for a win to be possible, as in Example 2, Part 1, where the Black King was already on the d-file. However, in this instance, the Black King is a few files away, and White has a small window to make the right choice and win the Endgame.

1.Kd2! and White heads for the Queenside, where the enemy King cannot reach the corresponding square, c7. After 1...Kf7 2.Kc3 Ke6 (or 2...Ke7) 3.Kc4 Kd6 4.Kd4! (White has won the opposition) 4...Kc6 5.Ke5 Kd7 6.Kd5 Ke7 7.Kc6 Ke6 8.d4 Ke7 9.d5 Kd8 10.Kd6!, and White wins easily, having achieved our goal position of "King on the sixth, Pawn on the fifth."

Essential Question, Level III: Application

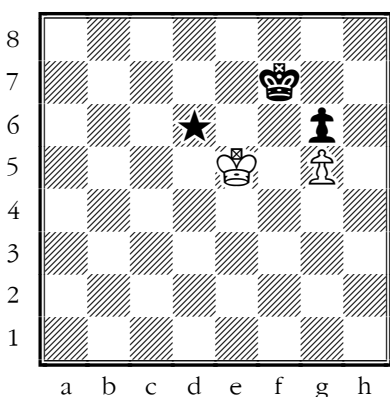
If you were playing White in this position, what questions would you ask yourself before deciding where to make your move?

Part 3: Irregular Opposition

Key Concepts

- More King and Pawn play, with additional examples of corresponding squares.
- What is irregular opposition?
- The famous King Dance position.
- Introduction to advanced King and Pawn ending ideas.

Irregular opposition: the King makes progress without directly opposing.



The goal position "King on the sixth, Pawn on the fifth" can be reached here.

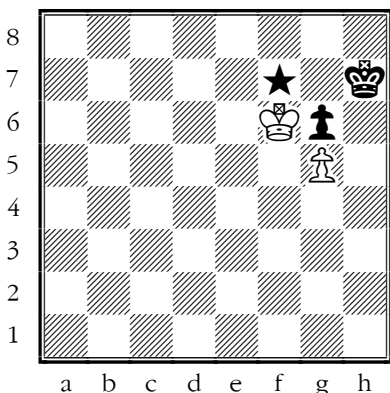
The name of this technique is *irregular opposition*, yet it is arguably the most practical (in chess, this means commonly reached) method of opposition in King and Pawn endings. Because most Endgames will not reach positions where the Kings line up directly, knowing how to make progress and outplay the enemy when their positions are irregular is key.

Here, White starts off with the move 1.Kd6!, and though the Kings are not directly opposing each other on a rank or file, the Black King is still in Zugzwang and must move, giving up the e6 square. The game continues: 1...Kf8 (best) 2.Ke6 Kg7 3.Ke7! Kg8 4.Kf6 and 4...Kh7. Because Black must guard the g-Pawn, the King is forced toward the edge.

Essential Question, Level III: Application

What would be the result if Black were to move first?

Irregular opposition, example 1, part 2.



Irregular opposition leads to direct opposition and winning the g6-Pawn.

White now makes the final obvious move, 5.Kf7. Black is in opposition, forced to move to the h8-square; the g-Pawn falls. White has achieved “King on the sixth, Pawn on the fifth,” and is easily winning after 5...Kh8 6.Kxg6 Kg8 7.Kh6 Kh8 8.g6 Kg8 9.g7 Kf7 10.Kh7 and 11.g8=Queen.

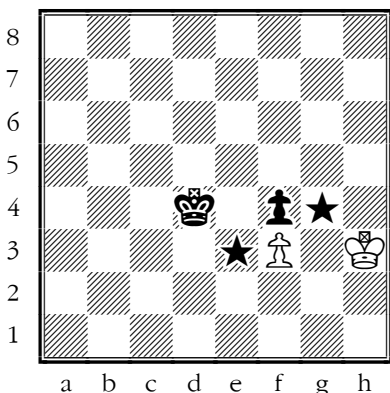
White’s ability to make progress, despite never directly opposing the enemy King, was based on the fact that Black had to guard certain key squares (like e6, f6, and eventually, the Pawn on g6). Because Black’s King was tied to those squares, White was able to move around the King, forcing Black to lose ground and allow White’s King to make progress towards the precious Pawn on g6.

What students are learning here is that opposition is ultimately about reaching your goal squares and forcing the enemy King to lose ground. It doesn’t always have to be on straight files and lines, as we’ve seen so far.

Essential Question, Level IV: Analysis

What evidence do you see here that shows a winning position for White?

Famous irregular opposition: the King dance, diagram 1.



In this famous King Dance position, whoever moves first, wins.

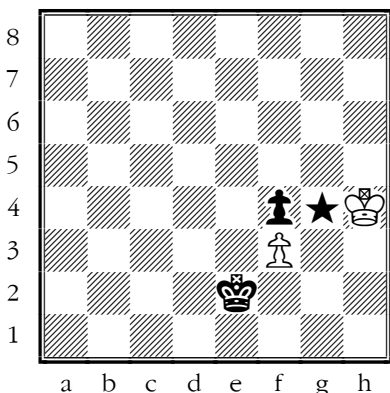
This position brings together all the ideas of basic, distant (the Kings being three files apart), and irregular opposition. Even if this exact position never occurs in one of your games, the concept is very important, and extremely useful in many other King and Pawn endings. Here, the squares e3 and g4 are corresponding squares, commonly referred to as “don't touch me first” squares.

This means that whoever moves to e3 (Black) or g4 (White) first will lose, after the enemy immediately moves to the corresponding square. Example: 1...Ke3 is met by 2.Kg4, guarding the f3-Pawn and placing the Black King in Zugzwang (the f4-Pawn falls). On the other hand, 1.Kg4 by White is met by 1...Ke3, returning the favor of zugzwang, and winning the Endgame for Black.

Essential Question, Level IV: Analysis

Why do you think the corresponding squares are called “don't touch me first” squares? Use your own words to explain.

Famous irregular opposition: The King dance, diagram 2.



White is forced to g4 and Black delivers the final blow: 3...Ke3, winning.

The question now becomes, who can force their opponent to the “don't touch me first” square, and how? Both sides must strive to reach a square that attacks the enemy Pawn, but isn't a “don't touch me first” square. The most obvious squares are g5 for White and e2 for Black. Typically, the more active King—in this case, the King who moves first—will win the King dance by reaching the key square first.

Assuming it is Black to play, 1...Kd3 is the correct move. White is now forced to dance away from the g4-square, as 1.Kg4 obviously loses immediately to 2...Ke3. 2.Kh4 is the only move; 2.Kg2 would allow 2...Ke3, placing White in zugzwang, easily winning the f3-Pawn and the game. After 2...Ke2!, White must play 3.Kg4, and Black retreats with 3...Ke3, placing White in Zugzwang and winning the f3-Pawn.

Essential Question, Level IV: Analysis

Using what you have learned, what ideas justify the importance of irregular opposition and the King dance, and why is it so important to have the more active King in King and Pawn Endgames?

Lesson 15 Summary and Linking Content to Standards

In Lesson 15, students turned their attention to complicated King and Pawn Endgame ideas. They learned that using these advanced King play techniques enable them to win Endgames that could otherwise end in a draw. Calculating opposition requires a student to count squares and study the position of the entire board, as well explain the thinking behind a plan in a chess game. Those components of this lesson enable students to utilize skills that align with numerous Common Core State Standards, including Geometry, Counting (K-1), and English Language Arts (ELA) Collaboration and Comprehension: Speaking and Listening. This skill set develops a student into an Endgame expert, ready to understand and tackle nearly any King and Pawn Endgame that he or she may encounter.

Students first learned important ideas about Endgames that only have a single Pawn left for one side. Students were then shown strong defensive strategy that enables them to draw an otherwise lost King and Pawn Endgame, which introduced them to the advanced concept of corresponding squares. Students discovered that when they recognize whether they have the opposition, even if it is distant or irregular, they can substantially increase their chances of winning even the trickiest of King and Pawn Endgames.

Finally, students built on Endgame skills previously encountered in the curriculum. If a student is able to promote a single Pawn into a Queen, she or he will then use the Queen and King checkmate to defeat his or her opponent. Students have made the initial steps necessary toward Endgame mastery. The foundational concepts of opposition are key to consistent winning technique in chess, and students are now able to play more advanced, complicated Endgames.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

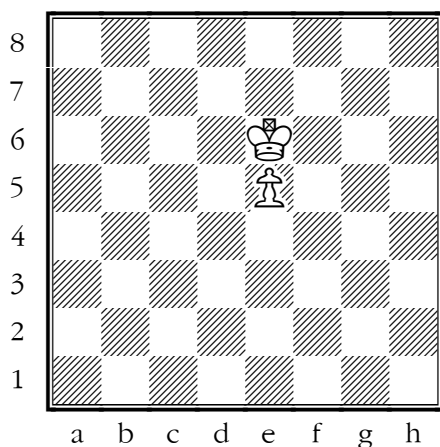
How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Practice Pages

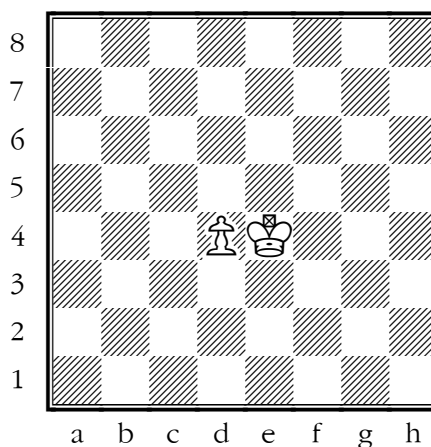
Practice 1: King and Pawn endings

In the following diagrams, Black is drawing with defensive opposition only if the Black King is placed on the right square(s).

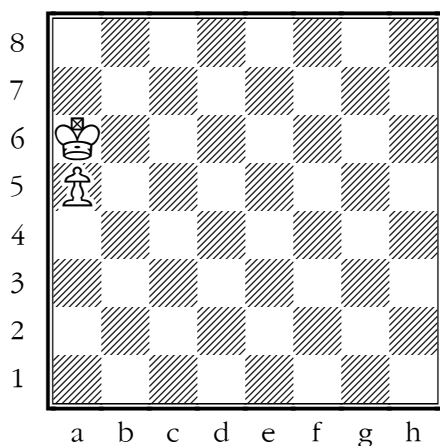
Draw a star on the square(s) that would give a draw to Black, regardless of whose turn it is to move. If there is no way to draw, circle the White King.



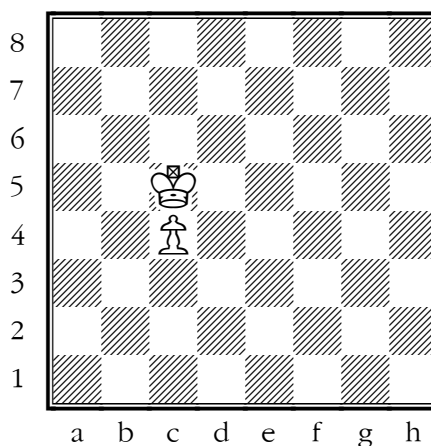
Are there any drawing squares for the Black King, regardless of whose turn it is?



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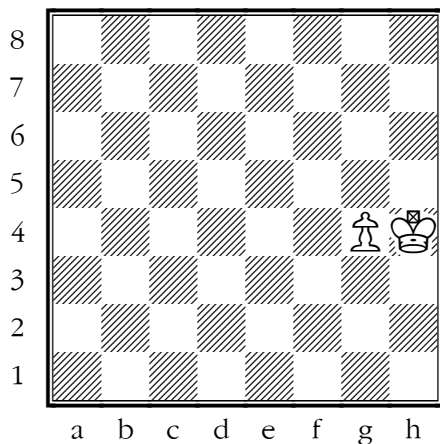


Are there any drawing squares for the Black King, regardless of whose turn it is?

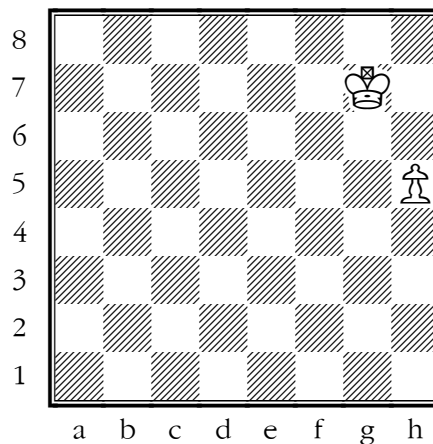
Practice 2: King and Pawn endings

In the following diagrams, Black is drawing with defensive opposition only if the Black King is placed on the right square(s).

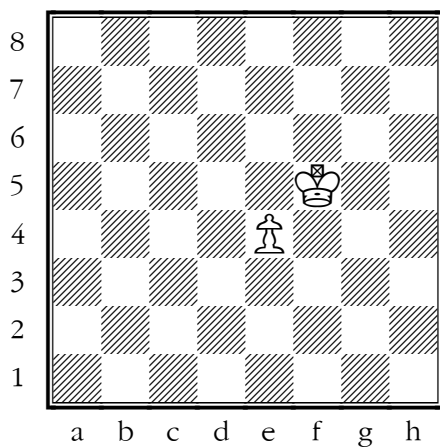
Draw a star on the square(s) that would give a draw to Black, regardless of whose turn it is to move. If there is no way to draw, circle the White King.



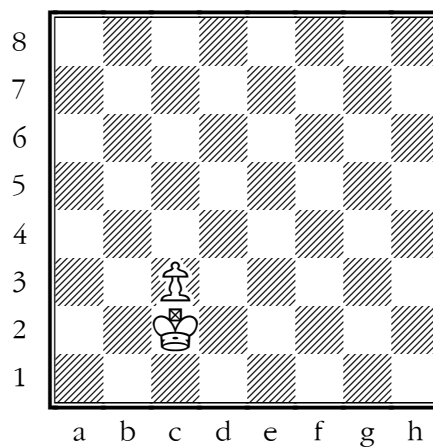
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Are there any drawing squares for the Black King, regardless of whose turn it is?

Answer Key

Practice Page 1: King and Pawn endings

- Diagram #1 Circle the White King. White has achieved “King on the sixth, Pawn on the fifth” and is winning, regardless of the position of the Black King or whose turn it is to move.
- Diagram #2 Stars on a8, b8, c8, c7, and c6—four squares total. Obviously, a8 and b8 hold the corner, but Black can also trap the White King to the Rook file from the c-file. For example, if the Black King was to start on c6: 1.Ka7 Kc7 2.a6 Kc8 3.Ka8 (if 3. Kb6 then 3...Kb8) 3... Kc7 4.a7 Kc8 stalemates White in the corner.
- Diagram #3 Stars on e6, d6, e8, and d8—four squares total. e6 and d6 obviously maintain a direct opposition on the White King and force the e5-Pawn to lead the way, therefore drawing. e8 and d8 hold the distant opposition and prepare to meet any advance of the King (f5, e5, or d5) with direct opposition. Note: c7, d7, e7, and f7 would draw if Black were to move, but if it were White's turn to move, the White King can gain the opposition by coming forward to the correct corresponding square. c8 and f8 would also draw on Black's turn by waiting for the opposition on the correct corresponding square (either d8 or e8 respectively).
- Diagram #4 Circle the White King: Though there are several squares that might draw if it were Black to move, and maybe even a few that would draw on White to move, there are no squares that draw regardless of whose turn it is to move.

Practice Page 2: King and Pawn endings

Diagram #5 Stars on g6, h6, g8 and h8—four squares total. g6 and h6 obviously maintain a direct opposition on the White King and force the g5-Pawn to lead the way, therefore drawing. g8 and h8 hold the distant opposition, and prepare to meet any advance of the King (g5 or h5) with direct opposition. Note: f7, g7 and h7 would draw if Black were to move, but if it were White's turn to move, the White King can gain the opposition by coming forward to the correct corresponding square. f8 would also draw on Black's turn by waiting for the opposition on g8.

Diagram #6 Circle the White King.

Diagram #7 Circle the White King.

Diagram #8 Every safe square along the b-, c-, and d-files would lead to a forced draw, regardless of whose turn it is to play. This position is designed to show the severe disability of having the Pawn in front of the King when trying to win King and Pawn endings. Even on d8 and b8, the Black King can wait to meet both 1.Kd3 and 1.Kb3 with 1...Kc7! and Black is ready to meet any advance by the White King with opposition. There exist a total of 13 forced drawing squares: c4, b5, c5, d5, b6, c6, d6, b7, c7, d7, b8, c8, and d8.

Classroom Activities

Activity 1: Down to one; can it be won?

Activity goal:	Practicing King and Pawn Endgame techniques, reinforcing either the King and Queen versus King or Rook and King versus King checkmating patterns, reinforcing ideas related to opposition, including distant and irregular opposition. (Parts 1 – 3)
Geometry:	CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Set up chess boards and pair students.
- Have students set up the following position on their boards:
 - White pieces – Ke1, Pe2
 - Black pieces – Ke8
- Tell students it is White's turn to move. One player will play White and the other Black.
- White's goal is to successfully promote the Pawn and checkmate his or her opponent.
- Once White successfully does this, have the students switch colors and sides and let the other student try the same position as White.

Coach/Teacher may use a chess clock to limit the amount of time to complete this exercise, i.e., 5 minutes, 3 minutes, etc.

Activity 2: The opposition dance

Activity goal:	Practicing King and Pawn Endgame techniques, reinforcing either the King and Queen versus King or Rook and King versus King checkmating patterns, reinforcing ideas related to opposition, including distant and irregular opposition. (Parts 1 – 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5); CCSS.ELA-Literacy.SL.2,3 (K-5), CCSS.ELA-Literacy.SL.5 and 6 (K and 2) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5), G.A.2 (K-3)

Instructions

- Set up chess boards and pair students.
- Have students set up the following position on their boards
 - White pieces – Kd4, b4, c3, f4
 - Black pieces – Kd6, f5, d5, b5.
- Tell students it is White's turn to move. One player will play White and the other Black.
- White's goal is to successfully promote a Pawn and checkmate her or his opponent. White should also raise his or her hand when she or he sees an example of distant or irregular opposition and point it out to coach/teacher.
- Once White successfully does this, have the students switch colors and let the student who first played Black try the same position as White.
- At the end of this activity, have the students get together as a group and use the demo board to explain what strategies worked and what did not. This is also a good time to test if the students remember that this position is special, because it is zugzwang.

Coach/Teacher may use a chess clock to limit the amount of time to complete this exercise, i.e., 5 minutes, 3 minutes, etc.

LESSON 16

Lesson 16: Advanced Endgame Play and Winning Technique



Overview

Lesson 16 works on developing Advanced Endgame Technique. While students may now be able to gain an advantage early in the game, converting that advantage into a win isn't always a given. In fact, the advantage often switches between players several times at the beginning stages of a chess game. There's a famous saying in chess: "the winner is the one who makes the second-to-last mistake!" This lesson highlights effective strategies for converting a winning position into a victory and avoiding common mistakes young players make once they have the lead.

Part 1 teaches students some practical as well as psychological strategies on how to win when winning. While it may sound simple, winning technique actually requires a lot of practice and discipline, and keeping a few things in mind that we highlight can truly help a young player develop these skills. This lesson emphasizes three "keepers" which will help students master winning technique: keep it simple by trading pieces, keep an eye out for the opponent's tricky ideas, and keep playing chess by continuing to make good moves and adhering to basic chess principles. Part 2 focuses on a particularly tricky example of how to win when winning, the Magic Square technique, which can be used when a student has a Queen and King and is facing a far-advanced enemy pawn and king. Using the Magic Square technique and these other principles will help students win an Endgame that could otherwise easily end with the opponent promoting a Pawn and a draw.

The Practice Pages and Classroom Activities give students a chance to practice a lot of different winning positions and Endgames. This exposes students to all kinds of positions where they can test the winning techniques they have just learned. These chess principles relate to the Common Core State Standard Geometry: angles, lines, shapes, and coordinates. As they grow experience in "winning when winning," students will be able to convert early advantages into victories.

Teacher's Guide

Unlike most other games or sports, once a player achieves an advantage in chess, the game can be broken down to a science. If the principles of technique are followed, the correct plans are chosen, and care for our opponent's threats and tricks is taken, a chess player should always “win when they are winning.” If a player earns a clear advantage, their opponent is no longer competing on a level playing field, and that mindset should be taken into every game.

Of course, we don't live in a perfect world. Even the best chess players in history have blown it. But the Keepers (patterns of technique) are in place to make sure that doesn't happen to your students, or at least not as often as it might happen to others. There are many technical patterns a chess player should memorize; however, we chose an example (Part 2) of high practical value, which clearly displays a repeating idea.

The worksheets associated with Lesson 16 are very advanced and could easily be treated as group studies rather than solo puzzle exercises, depending on the level of your student(s). A chess player becomes truly confident when she or he knows to win when winning. Teach your students the principles of technique and watch their tournament scores go way up!

Practical Notes and Advice—Lesson 16

- Use the “Win When Winning” mini-game handout between Parts 1 and 2.
- Remind your student(s) that, assuming the best moves are played and the Keeper Principles are followed, they should technically always be able to convert their advantages into victories, regardless of who they are playing.
- Good technique takes discipline and focus, so in order to instill good habits in your chess players, you must be prepared to stop and critique every moment your student(s) do not follow a keeper principle (and therefore lose a won game).
- The repeating pattern in Part 2 proves that some chess positions can be broken down into a science. When you execute winning ideas, your opponent's moves become irrelevant. Remind your students that they don't need to play “hope chess” to win games. It is a good feeling to know that your opponent can be making the best moves, and it still doesn't make a difference!

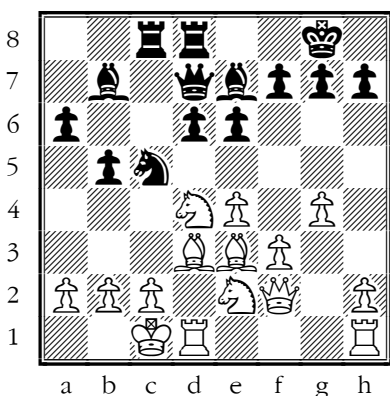
Lesson 16

Part 1: Win When Winning—the Principles of Technique

Key Concepts

- The “Three Keepers:” principles of learning how to win when you are winning:
 - #1. Keep It simple: trade pieces; don’t trade Pawns; simplify the position.
 - #2. Keep an eye out: watch for your desperate opponent's tricks.
 - #3. Keep playing chess: play good chess moves and don't forget the basics.

Keep it simple: the principle of knowing when and what to trade when winning.



Did you notice that White is ahead a whole piece in this position? No? That's because it's not that obvious.

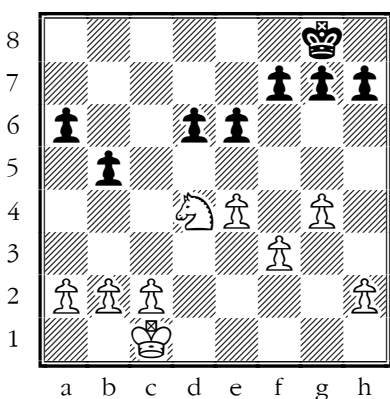
“Technique” is a word used in chess to describe the patterns or ideas a player will use to win a game after achieving an advantage. If a player shows good technique, then she or he followed through with the right plans to convert their advantage in the beginning stages into a full point.

There are three principles to keep in mind when converting an advantage. The first rule of thumb is to *keep it simple*. This implies a few obvious things about having a large advantage, but the main tip is that when ahead in material, trading pieces with your opponent is often the quickest road to victory. Our first position seems complicated, but if White trades off pieces, the path becomes clear.

Essential Question, Level I: Knowledge

Other than the fact that Black is down a piece, would you say both sides followed the principles of the Opening? Give examples to support your answer.

Keep it simple, continued: we simplify the position to illustrate your goal.



After trading pieces,
White's Knight is left alone
to control the game.

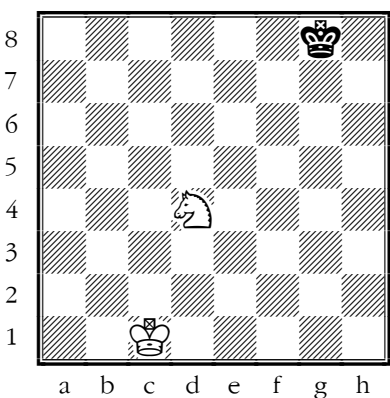
Here the position has been *simplified* from our initial example (Diagram 1). Note that all the extra stuff complicating the position has been removed, and this makes White's piece advantage clearer. The extra Knight on d4 will be much easier to use against Black's remaining Pawns and King.

Though it is not likely all the Pawns would have remained exactly the same in a practical game, the purpose of this model is to display what a player should try to do in a perfect world. White's remaining Knight is much more dominant now that the rest of the material has been traded.

Essential Question, Level III: Application

What approach would you use to turn this into a winning Endgame for White?

Keep it simple, continued: when ahead a piece, trade pieces, not Pawns.



A good technique: trade
Pawns only when you are
ahead Pawns.

There is a phrase that many coaches use to break down the concepts and illustrate the right way to simplify an advantage. "When you are ahead pieces, trade pieces; when you are ahead Pawns, trade Pawns." This exaggerated example position clearly demonstrates those points.

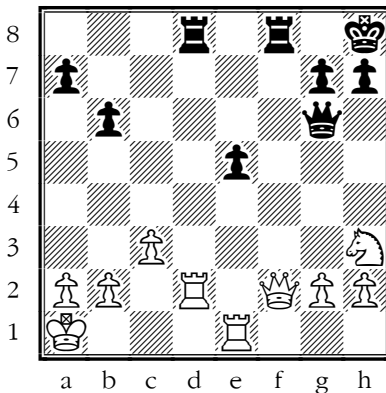
Once again, our latest version of the previous diagram may not be the most realistic, but it does show what would happen if White traded all the Pawns in the previous position, and didn't use the extra piece to outplay his opponent and win Pawns.

Because it is impossible to checkmate an enemy King with any one minor piece (Knight or Bishop cannot checkmate the King on their own), it is very important not to trade too many Pawns.

Essential Question, Level III: Application

How would you use or avoid Pawn exchanges in a game, knowing what you have learned so far about trading Pawns and simplifying a position?

Keep an eye out: don't get too greedy when you are winning.



Should White capture the e5-Pawn with the e1-Rook, or look to trade?

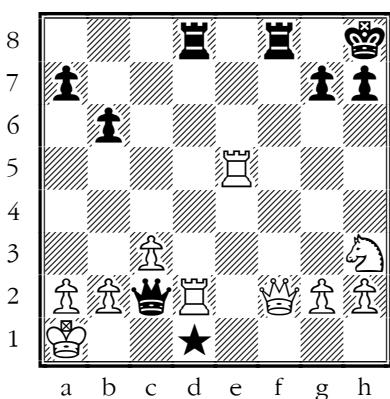
In our current diagram, White is ahead by a piece—the h3-Knight has no Black counterpart. With best play, this advantage should be more than enough to win the game; however, it is easy to get greedy and try for more when playing a chess game. The e5-Pawn is unprotected, but is it safe for White to capture? You must always keep an eye out for your opponent's threats.

Our second principle lays the groundwork of prophylactic thinking (see Lesson 20). This principle directs us to value our opponent's threats (and all of our own weaknesses) more than our own plans, especially when we have already achieved enough of an advantage to win the game. In other words, why take extra risks when you are already winning?

Essential Question, Level V: Synthesis

Can you think of an original way to explain to a newcomer to chess the concept of minimizing risk? Consider using real-life comparisons and examples of avoiding unnecessary risks.

Keep an eye out: when you are winning, all your opponent has left is tricks.



White should have played 1.Rxd8 earlier, trading pieces and simplifying.

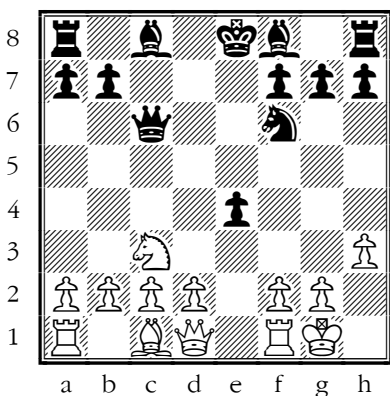
In this game, White made the huge mistake of wanting too much. By capturing the e5-Pawn, White allowed an amazing counter-shot: 1...Qc2!!, which exposes White's weak back rank (threatening 2...Qc1#, for example). If White captures the Queen, 2.Rxc2 Rd1+ 3.Rc1 Rxc1 checkmate!

No other moves by White can avoid either back rank checkmate or the loss of material. Even the tricky 2.Qxf8+ doesn't help White after 2...Rxf8 3.Rxc2 Rf1+ then mate. As referenced beneath the diagram, White should have captured on d8 in the first position, then immediately protected the back rank with a simple move like 2.a3. Always stay aware of your own weaknesses.

Essential Question, Level IV: Analysis

Can you make a distinction between your own weaknesses and strengths in a game?

Keep playing chess, example 1: keep playing in the Opening stage.



Here, Black is winning, and should look to develop and safeguard the King.

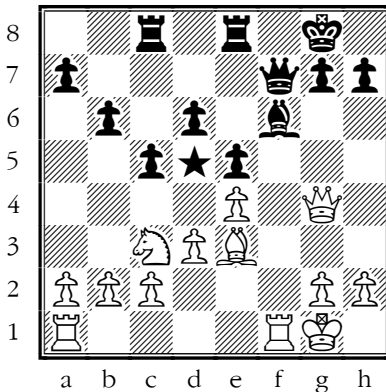
Knowing how to simplify a position is key. Realizing that your opponent's threats have become the priority once you've achieved an advantage is very important. But what should someone do in a game where an advantage is clear, yet there seems to be no easy way to simplify the position?

The answer to that question might change throughout the different stages of a chess game, but if a material advantage is earned in the Opening (example 1), often there are still good developing moves to play. Here Black should develop the Bishops, get castled, and bring the Rooks to the center before looking for more. Basically, Black should just make the moves that would likely be the most natural and accurate moves even if she or he weren't ahead by a piece. Just keep playing chess!

Essential Question, Level IV: Analysis

How is developing all your pieces related to creating or maintaining an advantage in the Opening?

Keep playing chess, example 2: keep playing in the Middlegame.



The outpost (Lesson 18) on d5 is a perfect home for the c3-Knight.

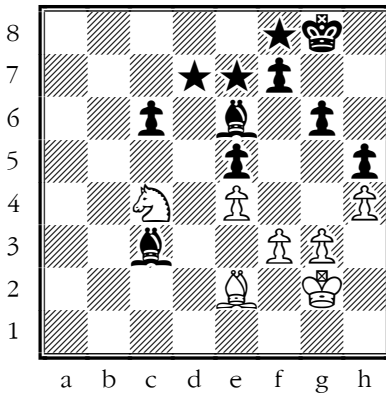
In a Middlegame, where there are no immediate ways for you to make good trades, look to improve your pieces by putting them on better squares. More active positions lead to good tactics, and therefore better trades. White's best move here, 1.Nd5!, places the Knight on a great square that will likely lead to more good things.

A good example of not trading blindly when ahead material is to realize that moves like 1.Rxf6 or 1.Qxc8 (the only possible trades in the position) would not be good. Though both moves technically trade material, both would be a big loss in points and piece value. So the lesson is that a player should not force trades when ahead material, but instead look for natural and equal-or-better trades when up by material and/or points.

Essential Question, Level V: Synthesis

Can you elaborate on the reason why you should not force all trades blindly, even when ahead material in a game?

Keep playing chess, example 3: keep playing in the Endgame.



As we learned in Lesson 13, Part 3, King activity is key in the Endgame.

When ahead in large amounts of material, the Endgame is an easy last stop along the way to victory! However, when only a small material advantage separates the players, having good technique is critical. If trading on c4 isn't going to help, what should Black's plan be in this ending?

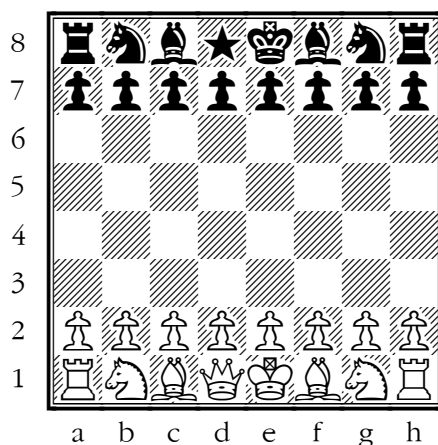
1...Bxc4? would be a bad move by Black, because this trade doesn't help advance the extra c-Pawn. In fact, White would then possess the only light-squared Bishop, making Black's job more difficult, due to Black's c3-Bishop never being able to challenge the c4-Bishop's control over the light squares. The best approach for Black is to activate the King, always a good idea in endings. 1...Kf8!-e7-d7, followed by helping the passed c-Pawn advance, is Black's best way to convert this advantage.

Though the Endgame technique Black would need to execute after the King activates itself is too advanced and would take too long to explain, the main point to emphasize here is that a trade of minor pieces is not always the right solution. Before capturing blindly, make sure a trade is improving your advantage in some way.

Essential Question, Level V: Synthesis

Can you assess and elaborate on why you think it would be bad for Black to give White the only light-squared Bishop, as suggested above?

Mini-game: Keepers of technique



Rules/goal: White to move and win the game.

Level 1

(Easy): Full starting position vs. Black's diagrammed position (no Queen)

Level 2

(Beginner): Full starting position vs. Black's two Rooks (a8 and h8) missing

Level 3

(Medium): Full starting position vs. Black's two Bishops (c8 and f8) missing

Level 4

(Medium): Full starting position vs. Black's two Knights (b8 and g8) missing

Level 5

(Hard): Full starting position vs. one Black minor piece (randomly chosen) missing

Level 6

(Expert): Full starting position vs. two Black Pawns (randomly chosen) missing

Level 7

(Expert): Full starting position vs. one Black Pawn (randomly chosen) missing

Level 8

(Master): Make up your own imbalance and try to convert the advantage!

Tips for the game

- Students should practice the positions, taking turns playing the winning and losing sides (White and Black) until White is winning the majority of the games.
- The keepers of technique should be instrumental in helping a player win as White.
 - Keep it simple: trade pieces and simplify the position when you are ahead material!
 - Keep an eye out: White is winning here! Watch for tricks and White should win!
 - Keep playing. When no good trades exist, and your opponent doesn't seem to have any threats, ask yourself: are my pieces on their best squares? Is my King safe? Can I attack a weakness? Just keep playing good moves!



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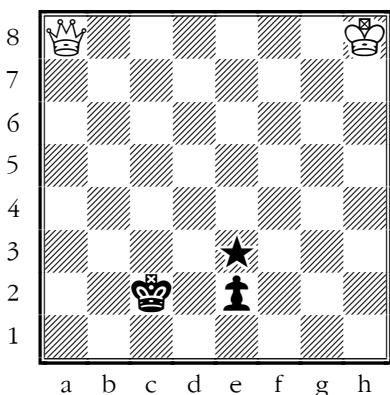
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Part 2: The Magic Square Technique: Queen versus Advanced Pawn(s)

Key Concepts

- Advanced Endgame ideas.
- The Magic Square technique.
- More “win when winning” principles.

The Magic Technique, step 1: check from behind, reach the square in time.



White played 1.a7-a8=Q and Black played 1...e2, attempting to promote the e-Pawn if White doesn't stop it. White must find a way to force the Black King in front of his own Pawn.

You are now ready to move on to more specific patterns of technique. Technical patterns are used in positions that require a particular kind of technique. Here the general ideas of the “keepers” will not apply. Instead, an exact approach must be taken in order to convert the advantage into a forced win.

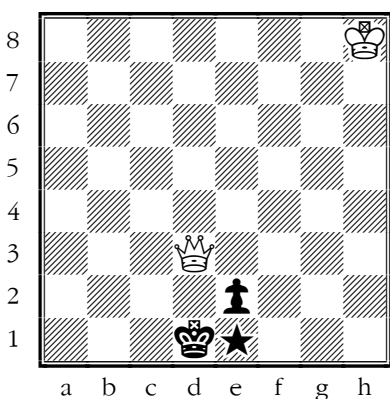
Though there are many specific technical patterns a master chess player must know, we have chosen one to highlight our point: This Queen versus Pawn Endgame is very common, though often misplayed, and it requires technique.

White has just Queened a Pawn on a8, and must now stop Black from doing the same. How? White must find a way to reach the magic square, which, in this ending, is the only square the Queen can go to that is not a check! The magic square changes depending on which Pawn the opponent has, but in this case, the square is e3.

Essential Question, Level V: Synthesis

Without seeing the entire pattern yet, but knowing Black's goal, can you surmise why White wants to force the Black King in front of the e-Pawn on e1?

The Magic Technique, step 2: take it slow, don't let the King say no.



Follow the "repeating pattern" on a chessboard to see it in action.

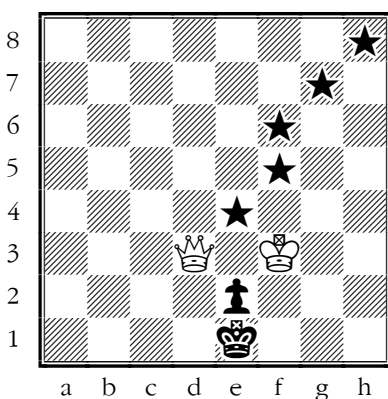
The magic square is always the square directly behind the Pawn. All three squares directly behind the advancing enemy Pawn will prove very useful to White, but the main line from the first diagram would run: 1.Qe4+ Kd2 2.Qd4+ Kc2 3.Qe3!, using the magic square to force 3...Kd1 and after 4.Qd3+ Ke1, the White King can inch closer.

The main lines of play show a repeating technical pattern that consistently forces the Black King where he doesn't want to go, and the White King inches forward one square at a time. After 4...Ke1 5.Kg7! Kf2 6.Qd4+ Kf1 7.Qf4+ Kg2 8.Qe3! (magic square) 8...Kf1 9.Qf3+ Ke1 (once again, it's time to advance the White King) 10.Kf6 Kd2 11.Qf4+ Kd1 12.Qd4+ Kc2 13.Qe3! Kd1 14.Qd3+ Ke1 15.Kf5 and the pattern of forcing the King in front repeats.

Essential Question, Level V: Synthesis

What features in the current position make this repeating pattern essential for White in order to create an unfavorable position for the enemy King?

The Magic Technique, step 3: bring in the King, time for the fat lady to sing!



The magic square technique works for most Pawns.

The current position is reached after a logical series of moves that follow our previous diagram: 15...Kf2 16.Qd4+ Kf1 17.Qf4+ Kg2 18.Qe3! (magic square again) 18...Kf1 19.Qf3+ Ke1 20.Ke4! (best) 20...Kd2 21.Qd3+! Ke1 (as any other move loses the Pawn) and finally 22.Kf3, winning the Pawn on the next move with checkmate soon to follow.

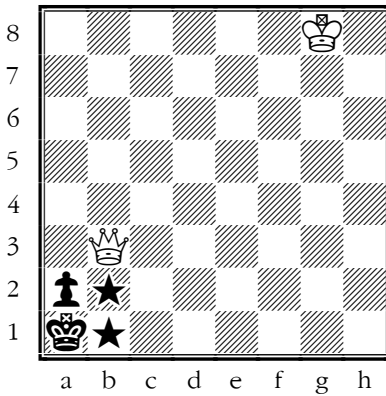
Note that the White Queen is able to force the Black King in front of the e-Pawn without the White King's help; however, as with most positions, the Queen cannot end the game by herself. The White King eventually provides the support needed to finish the checkmate.

The pattern you observed also works, by force, for the central and Knight Pawns (so b-, d-, e- and g-Pawns). The following diagrams highlight when the magic square technique fails, but rest assured that learning this technical pattern is a recipe for success against the majority of Endgames, when the Queen is trying to stop an advanced Pawn from promoting.

Essential Question, Level VI: Evaluation

Having now observed the pattern to its completion, describe how you would explain this technique, and the importance of not letting Black promote the e-Pawn, to a new chess player.

The Rook Pawn draw: magic square technique leads to stalemate.



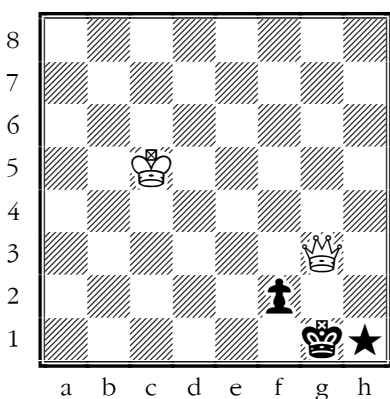
As mentioned, the magic square technique works against most Pawns. Our final diagrams show the two exceptions. Though the pattern will make progress (eventually forcing the enemy King in front of the Pawn, as it did before), doing so against a Rook Pawn (h- or a-Pawn) leads to an undesired result: the Black King is stalemated in the corner, so White can't advance the King.

Unless the position of the White King is already close, White has no choice but to un-stalemate the Black King by moving away with the Queen now. For example, 1.Qd1+ Kb2 (Black threatens to Queen the a-Pawn) 2.Qd2+ Kb1 3.Qb4+ Kc1 4.Qa3+ Kb1 5.Qb3+ Ka1, and the pattern of stalemate repeats itself. White has no way of forcing the King to leave the corner.

Essential Question, Level VI: Evaluation

If you could, what pieces would you add to Black's position that would un-stalemate the King, but still leave you confident that you could win the game?

The Bishop Pawn draw: the Magic Technique is ineffective due to tricks.



The Bishop Pawn offers the defender a different type of stalemate trick.

Against the Bishop Pawn, the magic square technique is once again White's best chance of making progress. Some games have even been won by the Queen, when Black makes the terrible mistake of 1...Kf1??, blocking the f-Pawn and allowing the enemy King to make progress. The trick to these positions is that Black's f-Pawn is in no danger.

1...Kh1!! reveals a shocking truth: the Bishop Pawn cannot be captured without stalemating the Black King! White now falls into the endless pattern of either constantly checking the Black King to avoid f1=Queen, or forcing him into a stalemated position in the corner of the board. This highly practical trick has helped many chess masters escape an otherwise deserved defeat. Learn it well!

Essential Question, Level VI: Evaluation

After 1...Kh1!!, how close would the White King need to be in order for this position to be winning? Explain your answer using general terms, in addition to stating specifically where you would put the White King, if you could put him on any square.

Lesson 16 Summary and Linking Content to Standards

In Lesson 16, students turned their attention to the practical and psychological approaches needed for good technique, as well as to one of the most advanced and specific Endgame techniques (Queen versus lone Pawn) a beginner should learn. They were reminded of the importance of playing smart, strategic chess that will help them keep any advantage, no matter how small it may be. Visualizing the components of winning Endgame positions pushes students to think geometrically and abstractly as they calculate and plan their moves. The use of these skills ties back to Common Core State Standards in Geometry: Lines, angles, shapes, coordinates.

Students first learned the Three Keeper principles to aid them in winning when winning. They were shown examples of keeping it simple and trading pieces when ahead, but also taught to be cautious about trading off too many Pawns. Additionally, students were taught to keep an eye out for their opponent's desperate tries to get back into the game with counterattacks. The third principle that students were taught was to keep playing chess, and not forget the basic chess strategy they've already learned from this curriculum. Finally, students were shown a complicated example of how difficult it can be to win when winning by looking at the Queen versus Pawn Endgame example. After learning the Magic Square technique, students have now mastered one of the more difficult winning Endgames using the knowledge they have gained in this lesson.

In conclusion, students are able to build on Endgame skills they already learned in the curriculum. Students can now carry an advantage from an earlier stage in the game into the Endgame, confidently knowing they have the chess muscles to convert that advantage into a victory. These types of reasoning opportunities allow students to have constructive arguments with others and critique the structure of any mathematical problem; in this case, geometrical patterns. These skills align with district-mandated district assessments like Partnership for Assessment of Readiness for College and Careers (PARCC).

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

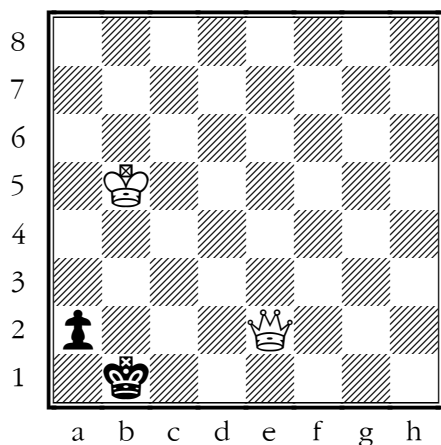
Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

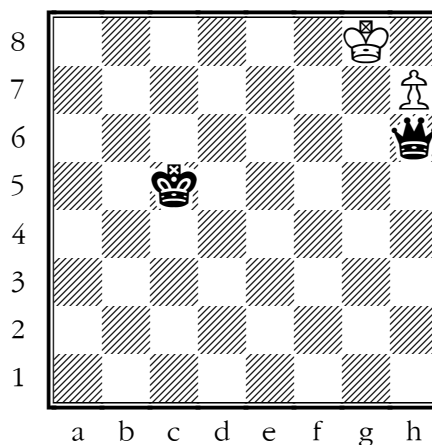
Practice Pages

Practice 1: Is the King too close?

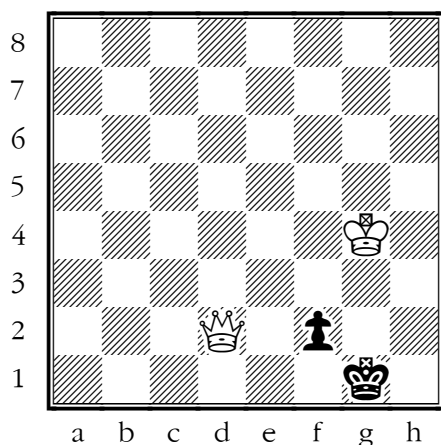
In the following diagrams, the player with the Queen is trying to win against either a Bishop or Rook Pawn, both normally drawn endings, as we learned in Part 2. However, with a close King, there are tricks that help the King and Queen work together. *Circle the correct answer.*



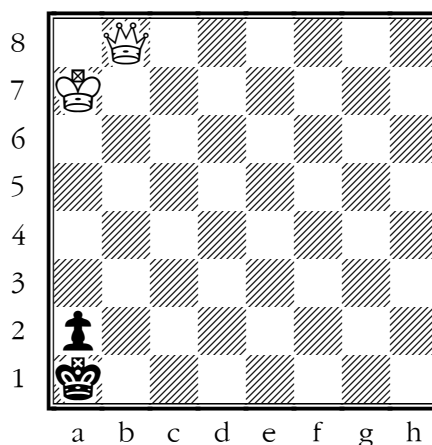
Is the White King close enough to win?
Yes *Circle the correct answer* **No**



Is the White King close enough to win?
Yes *Circle the correct answer* **No**



Is the White King close enough to win?
Yes *Circle the correct answer* **No**



Is the White King close enough to win?
Yes *Circle the correct answer* **No**

Answer Key

Practice Page 1: Is the King too close?

- Diagram #1 Yes. 1.Kb4! (or 1.Kc4 or 1.Ka4) 1...a1=Q 2.Kb3! and the Black Queen finds herself trapped in the corner. With no checks, there is no way to prevent checkmate by White in the coming two moves. For example, 2...Qd4 3.Qe1+ Qd1 4.Qxd1 checkmate.
- Diagram #2 Yes. 1.Kf3! (or 1.Kh3, but not 1.Kg3?? in view of 1...f1=N!!, forking the King and Queen and drawing the Endgame) 1...f1=Q+ 2.Kg3 and the Black Queen has no checks. Black is in Zugzwang and will be checkmated in a few moves. For example, 2...Q anywhere on the f-file, 3.Qg2 checkmate (2...Qf3+ or 2...Qf4+ are simply captured by the White King). If the Black Queen moves anywhere along the f1-a6 diagonal, then 3.Qg2 is also checkmate.
- Diagram #3 No. The Black King is too far away.
- Diagram #4 Yes. In this amazing position, there exists a trick to bring the White King two ranks closer before potentially stalemating the Black King: 1.Kb6!! brings the King closer and un-stalemates the Black King by blocking the Queen on the b-file at the same time. 1...Kb1 or b2 2.Kc5+! Kc2 (2...Ka1 would simply allow White to continue the pattern or bring the King closer with 3.Kb4) 3.Qh2+ Kb1 4.Kb4! a1=Q 5.Kb3 winning, as in diagram 1.

Classroom Activities

Activity 1: Here's a little something extra

Activity goal: Practicing the three Keeper techniques when winning a game, reinforcing basic game strategy when a player has a significant advantage. (Part 1)

Geometry: CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

- Set up chess boards and pair students.
- Have students set up the following position on each of their boards:
 - White pieces – Pa2, Pb2, Pc2, Kd2, and Ne2
 - Black pieces – Pa7, Pb7, Pc7, and Kd7
- Tell students it is White's turn to move. White is up one Knight and has to convert the position into a win using Endgame techniques learned in Lesson 16.
- Once White successfully does this, have the students switch colors and let the other student try the same position as White.

(Teacher's Note: similar positions illustrating how to convert an advantage are available on ChessKid.com using the Computer Workout tool.)

Coach/Teacher can use this same strategy with many different types of advantages, i.e., an extra Bishop, Rook, etc. Depending on the skill level of students, the instructor should start with an advantage that students can convert without too many problems, and work towards more difficult scenarios.

Activity 2: Third time's the magic charm.

Activity goal: Practicing the three Keeper techniques when winning a game, reinforcing basic game strategy when a player has a significant advantage, recognizing the Magic Square technique. (Parts 1 – 2)

Geometry: CCSS.Math.Content. G.A.1 (K-5),G.A.2 (K-3)

Instructions

- Set up chess boards and pair students.
- Have students set up any starting position where the Black Pawn is on the second rank and is on the b-, d-, e-, or g-file with the Black King protecting it. Have White set up his or her King at least five squares away, and the Queen at least five squares away.
- Tell students that it is White's turn to move. White will attempt to stop the Black Pawn from promoting, and instead try to capture it and perform the King and Queen checkmate.
- Once White successfully does this three times in a row, have the students switch colors, and let the student who first played Black try the same position as White.
- Both students should be able to complete the exercise three times in a row before you consider them to have mastered it.
- Switch from file to file (b, d, e, and g) randomly to increase difficulty.

Coach/Teacher may use a chess clock to limit the amount of time to complete this exercise, i.e., 10 minutes, 5 minutes, etc.

SECTION 5

Section 5: Advanced Chess Strategies & Ideas



LESSON 17

Lesson 17: The Fundamentals of Positional Chess



Overview

Lesson 17 of the curriculum focuses on an entirely new aspect of the game known as positional Chess. While students often create positional weaknesses for their opponents at this point, they sometimes don't even know they've done so! Positional chess is how some grandmasters outplay other grandmasters in top tournaments across the world today, and it can be an incredibly useful tool for young students to master early in their chess lives. This lesson highlights effective strategies for creating positional weaknesses in your opponent's camp, while also avoiding positional weaknesses in your own.

Part 1 shows students several examples of doubled Pawns and explains why they can be problematic. Additionally, the lesson presents a few examples where doubled Pawns are not a huge positional weakness, because they actually give a player certain forms of compensation. Part 2 shifts the focus to isolated Pawns, another type of positional weakness common in many chess games. Students see examples of isolated Pawns and how vulnerable they can be to attack. However, just as with doubled Pawns, isolated Pawns are not always bad, as showcased in the isolated Queen Pawn example. Part 3 highlights a final type of positional weakness involving pawns—Backward Pawns—that can lead to the opponent achieving a significant advantage known as the outpost square. Students see a couple of examples of how outpost squares can allow the opponent's pieces to dominate a position completely. They also learn how to avoid creating backward Pawns, and allowing their opponents this opportunity.

The Practice Pages and Classroom Activities give students more exposure to this new field of positional chess. While approximately 90% of chess is often said to be tactics, positional chess is still a critical part of the game, and it increases in importance as students progress to play against more advanced competition. A student who can master positional chess will have unique skills that set him or her apart from other players. This lesson pinpoints skills outlined in Common Core State Standards: Geometry: Angles, shapes, lines, and coordinates (K-5), and helps students recognize positional chess advantages and disadvantages for each side. This takes time, but with practice, students will become more familiar with the nuances of the fundamentals of positional chess.

Teacher's Guide

Chess is 90% tactics, but that is mainly because all games—even those played at the highest level—must eventually be decided by a tactic. However, if the remaining 10% of chess is positional strategy, it is also true that learning positional chess concepts is the first step toward chess mastery, and long-term strategic thinking is the only way to develop high-level plans that even the best opponents may not be able to stop.

Because Pawns are the only pieces that cannot go backward, plans of attack that surround Pawn weaknesses are the only plans that cannot always be prevented. A doubled Pawn cannot backtrack to its original square. An isolated Pawn can't change itself without the help of the opponent. Outpost squares, once created, are usually permanent. Learning to recognize and then expose these weaknesses is how one becomes a positional player.

A good chess teacher instills the following principle in her or his students.

- Develop plans where you expect your opponent to make the best move. Learn to recognize and target positional chess weaknesses, and you will never again rely on your opponent to help you win a chess game.

Practical Notes and Advice—Lesson 17

- Do not assign the worksheets to your students until all three parts of Lesson 17 have been reviewed in detail. They will need all the knowledge they can get.
- Use the Pawns-only worksheet example diagrams to teach your students to see the bigger picture. Learning to recognize what is going on with the Pawns during a game full of tactics is an important, master-level skill.
- Teach your students that square weaknesses (like outposts, color complexes, etc.) are just as important to the position as Pawn weaknesses.
- Consider revisiting the mini-game from Lesson 13 to give your students another shot at practicing Pawn play at a high level.

Lesson 17

Part 1: Positional Chess: Doubled Pawns

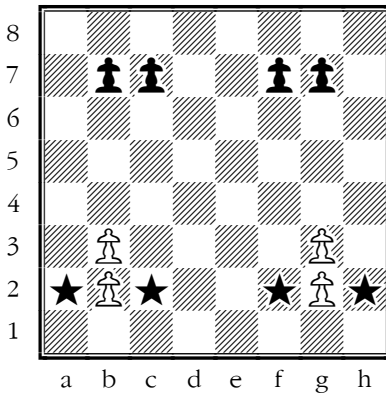
Key Concepts

- Introduction and definition of positional chess.
- What is the difference between positional chess and tactical chess?
- What is a positional weakness?
- What are doubled Pawns, and why are they bad?

Positional chess is, in many ways, the opposite of tactical chess (see Lessons 9-12). While we use the word *tactics* to describe immediate threats, captures, and checkmate and attacking ideas, the term *positional chess* is used to describe everything that is a long-term or permanent feature of the position or game we are playing.

A positional player focuses on building up long-term advantages, targeting her or his opponent's positional weaknesses and avoiding positional weaknesses in his or her own camp. A positional weakness is a permanent weak spot in a player's position, such as doubled Pawns (part 1), isolated Pawns (part 2), backward Pawns (part 3), or weak squares (Part 3). Every basic positional weakness a beginning player must know is discussed in Lesson 17.

Doubled Pawns introduction.



We removed all other pieces from the board to highlight the weakness of having doubled Pawns versus the opponent's healthy Pawn structure.

Doubled Pawns are two Pawns of the same color that stand one in front of the other on the same file. Since Pawns all start off next to each other, each on a different file, the only way for two Pawns of the same color to stand on the same file is by capturing an enemy piece.

Doubled Pawns are often considered a weakness, since:

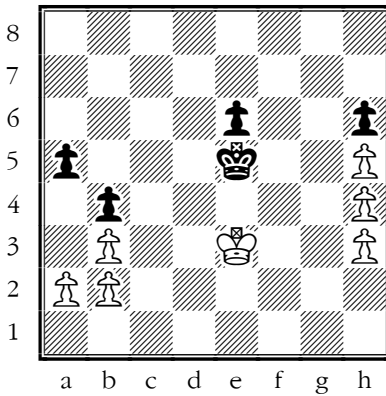
- They are easily attacked.
- They cannot protect each other .
- They cannot move as quickly up the board, since one Pawn always blocks the other.

They are like quarrelling siblings, constantly stepping on each other's toes as they walk ahead! The doubled b- and g-Pawns were created by a capture (from either a2 or c2 for the b-Pawns, and f2 or h2 for the g-Pawns). Black's Pawns, on the other hand, can move forward easily, protecting each other as they advance.

Essential Question, Level I: Knowledge

How would you tell a new chess player in your own words what doubled Pawns are, and why it's generally good to avoid them?

Practical example 1: why twins and triplets are not good in chess games.



White's doubled b-Pawns and tripled h-Pawns make having extra Pawns useless in this Endgame.

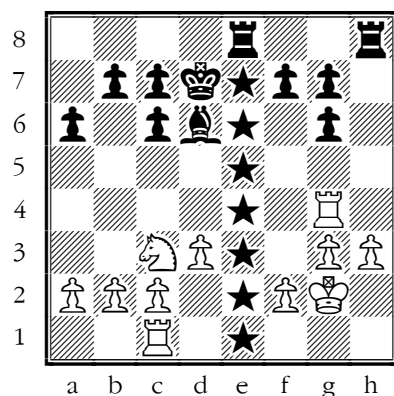
Doubled Pawns are commonly referred to as “twins.” Though it doesn't happen very often, a player can even have “triplets” (see the h-file Pawns) or even “quadruplets” (which would be four Pawns of the same color on one file).

This example diagram displays the problem with having twins or triplets. Despite White's two-Pawn advantage (and an extra Pawn on both the Kingside and Queenside), White is easily losing this Endgame. Black's passed e-Pawn is essentially extra. One example line is 1...Kd5 2.Kd3 e5 3.Ke3 e4 4.Ke2 Kd4 5.Kd2 e3+ 6.Ke2 Ke4 7.Ke1 Kf3, where Black wins the h-file Pawns and promotes his h-Pawn to a Queen before White can get enough play on the Queenside.

Essential Question, Level I: Knowledge

Can you explain in your own words why White's extra Pawns can do nothing to prevent Black from winning?

When doubled Pawns are ok.



Black's h8-Rook has an open file because of the doubled g-Pawns, while the e8-Rook enjoys controlling center squares.

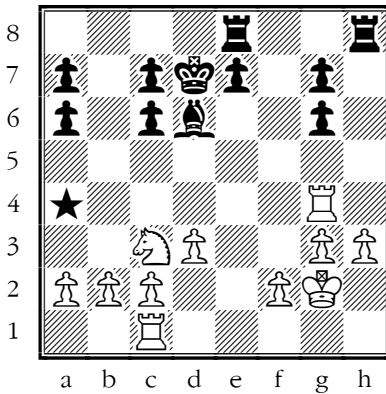
Moving on from the clear disadvantages of doubled Pawns, here we see a position where the doubled Pawns themselves are ok, and the open files they create might even leave Black with the more active pieces. Remember, by definition, having doubled Pawns means that one Pawn captured from another file. This means that there is always a potential open file (like the h-file here) for a Rook to occupy.

Here, both of Black's Rooks control valuable open files, and the Bishop on d6 is well-placed to attack both sides of the board. Most importantly, the two sets of doubled Pawns (the c7-c6 and g7-g6 duos) are well protected by their brother Pawns at f7 and b7. All this makes them hardly weaker than any of White's Pawns. This position is roughly equal; neither sides have targets. The doubled Pawns do not yet have any critical impact on this game.

Essential Question, Level II: Comprehension

Can you explain what is happening in this position? What can you say about why Black's doubled g- and c-Pawns are not any weaker, at this point, than White's Pawns?

Doubled isolated Pawns: when doubled Pawns are *not* ok.



White's Rook currently attacks g6, and could easily slide over to a4.

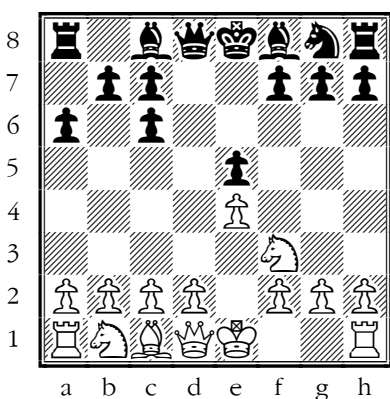
Compared to our previous diagram, Black's b7-Pawn has been moved to a7, and the f7-Pawn was moved to e7. Suddenly, the entire evaluation of this Endgame changes: Black's position is full of problems and is likely lost, even with best play. The a-Pawns, c-Pawns, and g-Pawns are all isolated doubled Pawns, and will be hard to defend.

You will find more examples of isolated Pawns in Part 2, but the basic point here is that the doubled Pawns in the first diagram were not that weak because the b- and f-Pawns defended them. Now, with no brother Pawns on adjacent files to protect them, the Pawns are doubled, isolated, and very easy to attack.

Essential Question, Level II: Comprehension

How would you compare and contrast doubled Pawns that are not that weak with doubled Pawns that are very weak in a specific position?

Practical game example: the Ruy Lopez (Spanish) exchange variation



In the "Exchanged Spanish" Opening, Black has full compensation for the doubled c-Pawns.

The current position often occurs in tournament practice: The Ruy Lopez, or Spanish Game, is one of the most popular Openings in the world. The exchange variation we see here appears after 1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 (4.Ba4 would lead to the Main Line, rather than the Exchange Variation) and finally 4...dxc6.

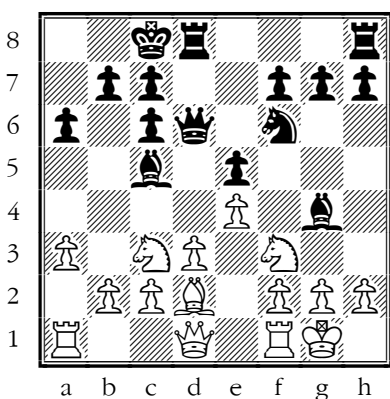
Though Black is now strapped with doubled c-Pawns, he is compensated for the weakness by having open lines for his two Bishops on c8 and f8, as well as for the Queen on d8. Having two Bishops versus your opponent's one Bishop can be a critical advantage in open positions. One example of Black's open space can be seen if White tries to capture e5 with 5.Nxe5? Then 5...Qd4! will place a double attack on the e5-Knight and the e4 Pawn. After 6.Nf3 to save the Knight, Black captures e4 with check and has a favorable game.

We've learned that though doubled Pawns themselves are never ideal, it is possible to make good use of the open lines (diagonals and files) given to you. Players who avoid isolated doubled Pawns will normally have enough compensation to remain equal in position.

Essential Question, Level II: Comprehension

Can you explain a few developing moves you would make for Black to demonstrate Black's compensation for the doubled c-Pawns?

Practical game example, continued: the nice thing about doubled Pawns.



Though White hasn't played the best moves, we see Black's natural piece activity fully compensates for the doubled c-Pawns.

Here Black's open d-file, pinned on the f3-Knight, and active Bishop on c5 leave Black in a better position, with no worries about the doubled c-Pawns. This position could have occurred after the continuation of 5.0-0 Bg4 6.Nc3 Bc5 7.d3 Qd6 8.Bd2 Nf6 9.a3 and 9... 0-0.

White could have improved on move six (6.h3), but other than that, White's moves were not that unnatural; yet Black clearly possesses the better pieces. This is because White captured early on c6 and didn't look to be more aggressive in the center (5.d4 instead of 5.0-0 is theoretically best). White needed to play more actively to counteract Black's open files and diagonals.

Essential Question, Level II: Comprehension

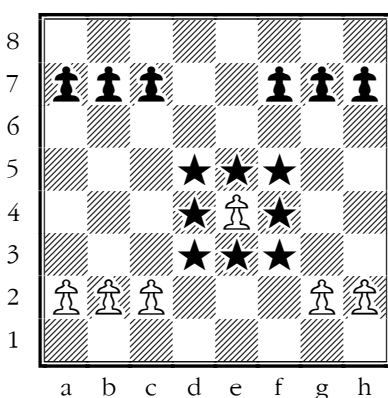
How would you summarize, by comparing and contrasting, the imbalances of doubled Pawns in a chess game?

Part 2: Positional Chess: Isolated Pawns

Key Concepts

- What is an isolated Pawn?
- What is a Pawn island?
- The most common isolani: the isolated Queen Pawn (or IQP).
- The advantages of an isolated Pawn, particularly the IQP.

Introducing and defining the isolated Pawn and Pawn islands.



Having the isolated e4-Pawn also leaves the other Pawns behind, creating more islands.

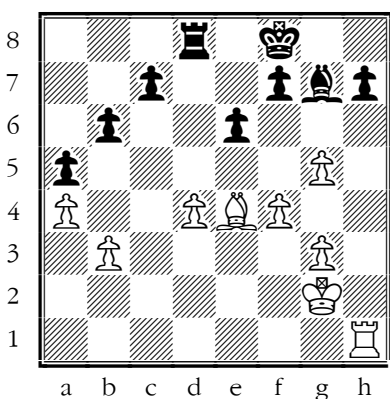
A Pawn is isolated when it has no friendly (the same color) Pawns on any of the files directly to the left or right of it. In our first diagram, the e4-Pawn stands alone; therefore, it is isolated. There are no Pawns on the adjacent d- or f-files, which makes the e4-Pawn weak, and a likely target of attack by Black.

As it says beneath our example diagram, when a player has an isolated Pawn, this usually means the other Pawns are slightly weaker as well. Pawn groups are often referred to as “Pawn islands.” The fewer Pawn islands you have, the better! This is because when Pawns are together, they protect one another. Here, White has three Pawn islands, versus two Pawn islands for Black, which puts White at more of a positional disadvantage.

Essential Question, Level I: Knowledge

What advantages does each side gain when Pawn islands are created on the board?

When Pawns can't defend each other, the pieces gang up on them.



Both White and Black will lose their isolated Pawns.

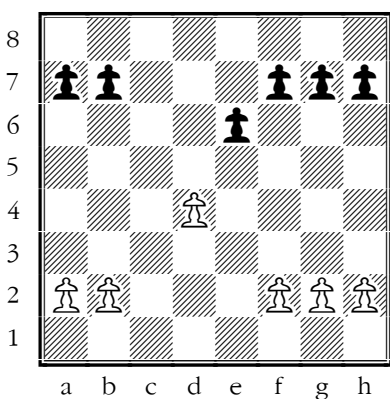
Our next diagram displays one simple, cold, hard fact about isolated Pawns: they are dead in the water if your pieces can't defend them! Here, both White's d4-Pawn and Black's h7-Pawn are isolated, and without pieces to defend them, it is only a matter of time before the opponent will gather forces and capture these weak Pawns.

Because isolated Pawns, by definition, cannot be defended by other Pawns, the pieces have to do it! Why is that a big deal? Because the pieces are generally busy with more important matters, they don't want to guard the little guys.

Essential Question, Level I: Knowledge

For review, can you explain to a newcomer to chess why an isolated Pawn is weaker than other Pawns?

Introducing the Isolated Queen Pawn (IQP) and what makes it different.



An isolated Queen Pawn is always on the d-file for White or Black.

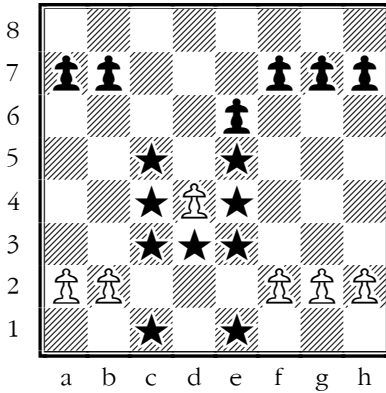
An isolated Pawn in the middle of the board is still an isolated Pawn. It is still weak and can still be attacked; without other play, the pieces will still be stuck defending it. However, because an isolated Pawn always has open files and diagonals right next to it, a centrally isolated Pawn can offer active space for both Rooks and Bishops.

We normally call a centrally isolated Pawn an "Isolated Queen Pawn," because most of the time, the Queen's Pawn is the one that becomes isolated. This is due to many common Opening variations that naturally lead to this position. If the players imagined the pieces being taken off the board, this would be a common Pawn structure (see Lesson 18 for more on Pawn structures).

Essential Question, Level I: Knowledge

Can you list three ways a centrally located isolated Pawn can help you in your game?

The possible advantages of an IQP, and how to use them.



The IQP naturally provides control of the center and open board.

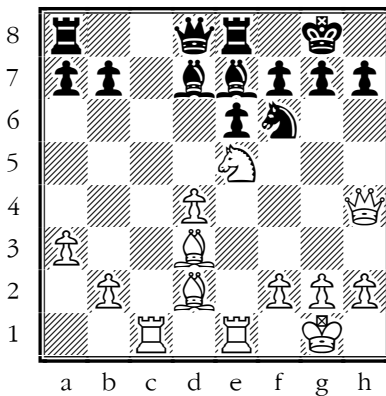
The Isolated Queen Pawn is often referred to as an "IQP," or an "Isolani." Though the naming of this Pawn can change, the principles and ideas remain the same:

- The IQP is normally more advanced than the opponent's central Pawn. Here, we see White's Pawn on the fourth rank, with Black's Pawn only advanced to Black's third rank.
- White usually has good squares for the Rooks on c1 and e1, as well as more space around the Pawn (see all the highlighted squares in our diagram) for pieces such as Knights and Bishops.
- If White can keep the pieces on the board, avoid trades, and stay active, good things will likely happen!

Essential Question, Level II: Comprehension

How would you compare the Isolated Queen Pawn to other isolated Pawns on the board?

The IQP in all its glory: open files and diagonals lead to good tactics.



The IQP can lead to good tactics and an attack.

The *opposites* of the bullet points above list the plans for the opponent playing against an IQP:

- Trade the minor pieces
- Keep your pieces active, or at least prevent the opponent from getting too active
- Attack the Pawn and control the squares around it

If Black doesn't do that, this is an example of what might happen next:

Every White piece is on a great square. It is hard to find a move for Black with White's Queen and Bishops aiming at the Kingside (h7 in particular), and White has many threats and tactics. 1.Bg5, attacking the f6-Knight and then the h7-Pawn is one example idea for White.

Essential Question, Level II: Comprehension

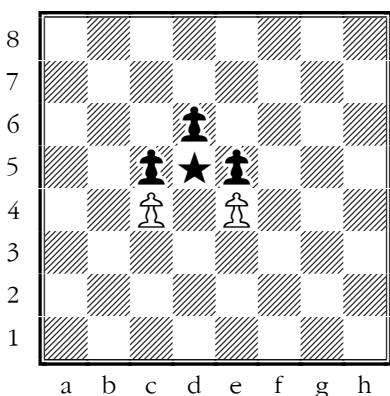
In an IQP position, what can you say about the need to prevent your opponent's plans and goals while developing your own plan?

Part 3: Positional Chess: Backward Pawns and Outpost Squares

Key Concepts

- What is a backward Pawn?
- What is an outpost square?
- Recognizing and exploiting backward Pawns and outpost squares.

Introducing the backward Pawn and the outpost square.



Both the d6-Pawn and the d5-square would be targets in a real game.

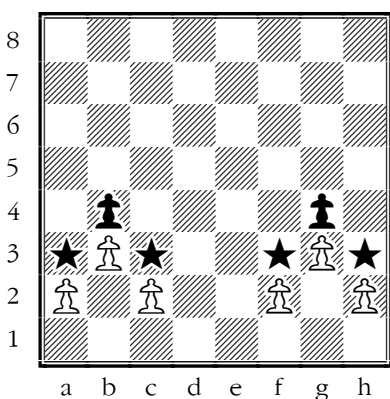
The third type of positional weakness under discussion in Lesson 17 is the *backward Pawn*. A backward Pawn is a Pawn that has been left behind by his teammates and is stuck because of the threat of capture from an enemy Pawn. The d6-Pawn is backward in our first example.

Furthermore, the weakness that almost always accompanies the backward Pawn is the *outpost square*. An outpost square is a square that can never again be defended by a Pawn. By definition, the same Pawns that left the d6-Pawn behind, making it backward, have also left the d5-square behind, turning it into an outpost square. Outpost squares are also called “holes.”

Essential Question, Level I: Knowledge

Why is it that you normally have an outpost square weakness associated with a backward Pawn? What is their relationship to each other?

Extreme positional weaknesses: multiple backward Pawns and outposts.



If Black had the chance to put a piece on a3, c3, f3, or h3, that piece would be very happy indeed!

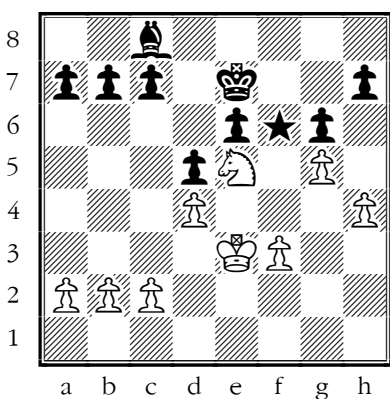
Highlighted in our current diagram is the possibility of having multiple backward Pawns and outpost squares. What's amazing about this position is that Black's b4- and g4-Pawns, without the threat of other White pieces, are essentially just as good as all six of White's Pawns!

Because of en passant (Lesson 5) neither the a- nor c-Pawn can advance forward without being captured. Obviously, moving to a3 or c3 runs into capture the usual way, while 1.a4 or 1.c4 run into capture by en passant. The same can be said for White's f- and h-Pawns. The a3-, c3-, f3- and h3-squares are all also very weak holes for Black's personal use.

Essential Question, Level I: Knowledge

What is the problem with multiple backward Pawns and outpost square weaknesses in your position?

Outpost squares and backward Pawns in action: good Knight versus bad Bishop.



Black defends h7 after the Knight goes to f6.

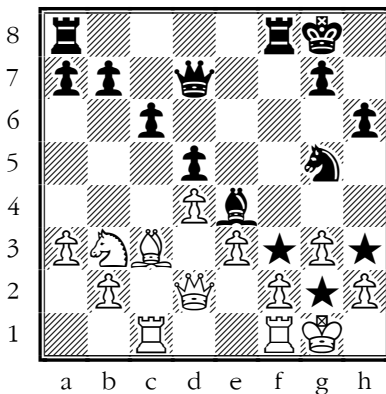
With our third diagram, the first of three practical game examples, you no longer have to imagine these Pawn and square weaknesses in positions of just the Pawns. Here, we will see firsthand how to attack both backward Pawns and outpost squares in real games.

The Knight on e5 (occupying an outpost square) is dominating the Bishop. Furthermore, the h7-Pawn is backward and unprotected. Even though material (points) is equal, White is much better off, easily winning with best play. After 1.Ng4! (heading for the other outpost on f6) then 1...Kf7 2.Nf6 Kg7 3.Kf4! followed by King to e5, Black is not able to stop the Knight and king from commanding the Endgame. Soon, they will work together to attack the e6-Pawn, and create more avenues for the White king to enter and attack the Queenside.

Essential Question, Level II: Comprehension

Can you demonstrate your understanding of why White is better off in this Endgame by explaining a winning plan to your teacher, and to a student of lesser chess knowledge than yourself?

Multiple outpost squares: the weak square/color complex.



White's pieces on the Queenside are useless in defending the king.

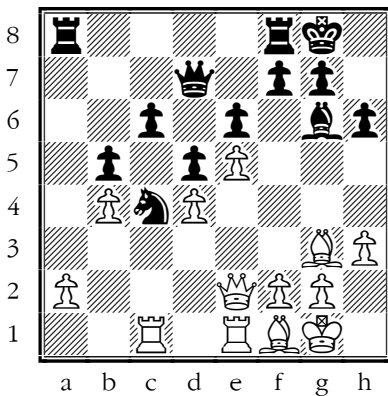
Moving on from our Endgame example, we now see how outpost squares (in this case, multiple outposts) can lead to serious issues in the Middlegame. In particular, having unprotected holes around the king position, especially when they are all of the same color, can give the opponent an excellent mating attack.

In this position, Black is threatening both 1...Nh3 checkmate, as well as 1...Nf3+, forking the king and Queen. White is lost. The only move to continue the game would be 1.f3, though after 1...Nxf3+ Black wins the Rook on f1 for the Knight, and 1...Rxf3, followed by 1...Nh3+ at some point, also wins easily. The *weak color complex* around White's king proved to be a decisive positional weakness, and led to crushing tactics for your opponent. We see here how positional/strategic weaknesses lead to tactics for your opponent.

Essential Question, Level II: Comprehension

What can you say about weak squares and how they give your opponent clear targets, especially as it relates to king safety?

Outposted Knight on c4 and backward a-Pawn: Black is better.



Positional advantages can be used to win material, and eventually the game.

In our final example, we see how Black's strong Knight on c4, combined with the open a-file, gives Black a crushing advantage. The a-Pawn is backward—a sitting duck for Black to pick up, once he organizes his Rooks on the open file.

After 1... Ra6, followed by 2...Rfa8 and if need be, 3...Qa7—tripling the three most powerful pieces on the a-file—it is only a matter of time before the Pawn falls. Note that even if White moves the Queen to capture the Knight on c4 with the f1-Bishop, Black is left with a protected passed Pawn instead of an outposted Knight. The key thing to notice about positional advantages is that in all three of our practical game examples, the material (points) was equal. The positional advantages alone were enough to win, as they led to good tactics!

Essential Question, Level II: Comprehension

How would you demonstrate your understanding of a backward Pawn and an outpost?

Lesson 17 Summary and Linking Content to Standards

In Lesson 17, students were taught new ideas that differ from the exciting tactics they learned in past lessons. They turned their attention to positional chess, a complicated aspect of the game that is less commonly taught or thought about than tactics at the beginning stages of learning the game, yet grows much more important as a player gains more experience and faces tougher competition. The lesson also highlighted how students can elude creating positional weaknesses for themselves by avoiding the common Pawn structure weaknesses. The use of these unique positional skills, and the shapes and formations therein, aligns with Common Core State Standards: Geometry: Lines, angles, shapes, coordinates.

The lesson emphasized three different types of Pawn positional weaknesses: doubled Pawns, isolated Pawns and backward Pawns. Doubled Pawns are a major weakness, especially in the Endgame, because these Pawns cannot protect one another and stumble to make their way across the board quickly, lessening their chances of promoting. Isolated Pawns are problematic because they are not protected by other Pawns, causing them to be more vulnerable to attack by enemy pieces. Students also saw examples of backwards Pawns, which can actually give the opponent a significant advantage by creating outpost squares for enemy pieces to occupy. Students saw firsthand through practical game examples why outpost squares can give an opponent's piece (like a Knight) domination over a major section of the board.

In conclusion, students are now able to recognize some of the major positional weaknesses that can occur during a game. They know how to take advantage of these same weaknesses in their opponent's position, as well as how to avoid creating these types of problems within their own positions. As per district-mandated district assessments like the Partnership for Assessment of Readiness for College and Careers (PARCC), the Essential Questions deepen a student's ability to take information provided and express ideas with others through collaboration. Elaborating on the information provided demonstrates the student's knowledge through constructed responses on paper through writing, illustrations, and technology, when appropriate.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

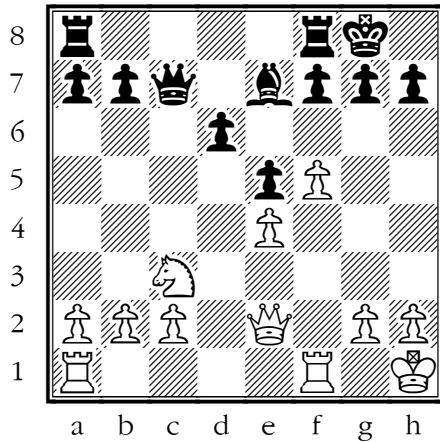
Mathematics: Know Number Names and Count Sequence

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration, and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)

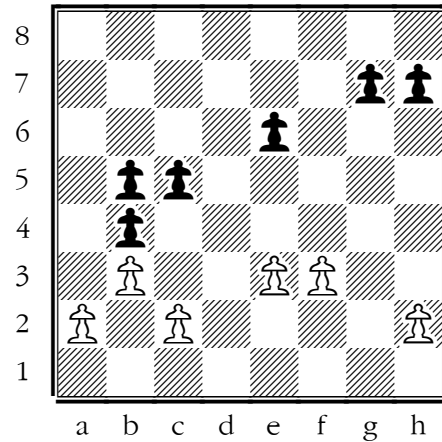
Practice Pages

Practice 1: Find the weakness

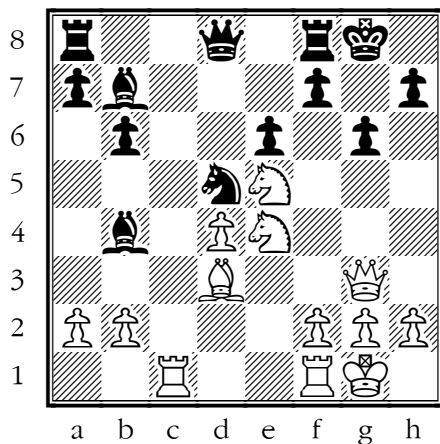
Circle all the positional weaknesses you can find in the diagrams below.
Look for doubled Pawns, isolated Pawns, backward Pawns, and outpost squares.



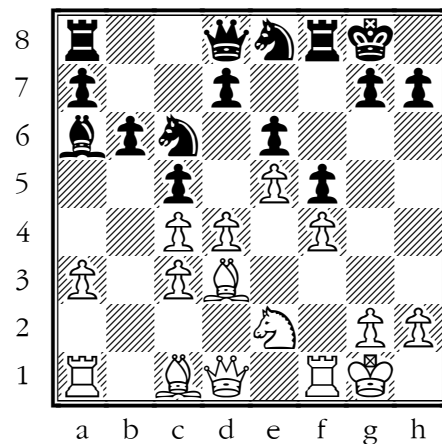
Circle the positional weaknesses.



Circle the positional weaknesses.



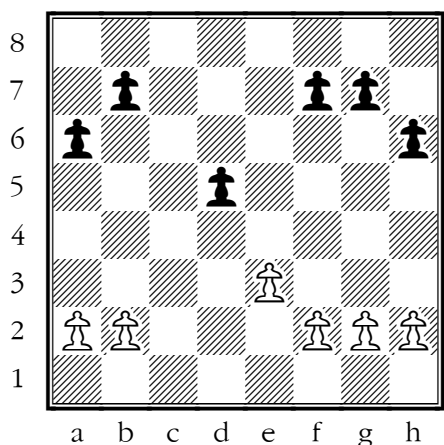
Circle the positional weaknesses.



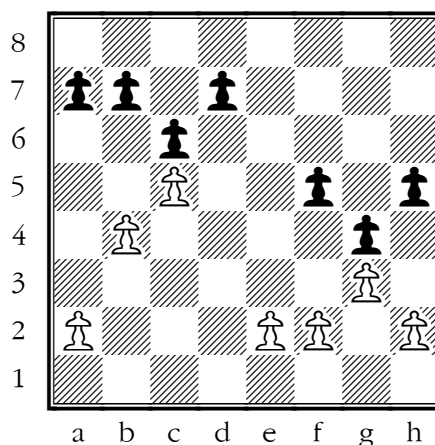
Circle the positional weaknesses.

Practice 2: Find the weakness

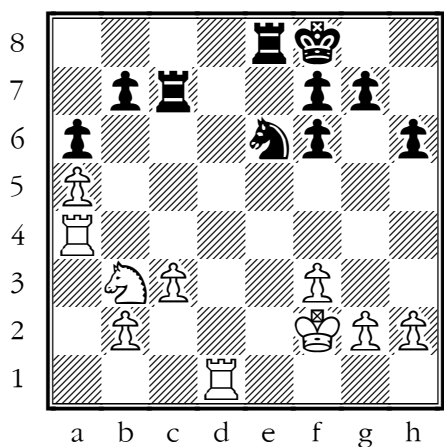
Circle all the positional weaknesses you can find in the diagrams below.
Look for doubled Pawns, isolated Pawns, backward Pawns, and outpost squares.



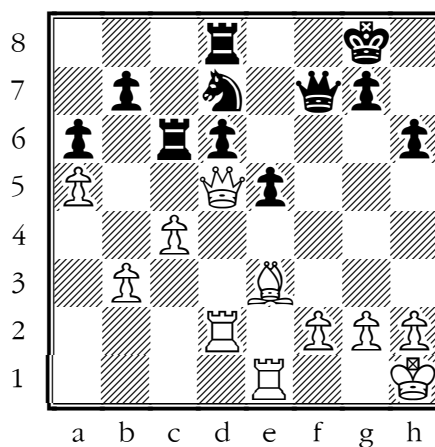
Circle the positional weaknesses.



Circle the positional weaknesses.



Circle the positional weaknesses.



Circle the positional weaknesses.

Answer Key

Practice Page 1: Find the weakness

- Diagram #1 Circle: Black's d6-Pawn and the d5-square. White's Knight can head to d5 with a large positional advantage for White—a great Knight versus a poor Bishop on e7.
- Diagram #2 Circle: White's d4-Pawn and the f6- and h6-squares. Though White does not have an easy way to access the f6- or h6-squares, recognizing them as weak is important.
- Diagram #3 Circle: White's a2-, c2- and h2-Pawns; Black's doubled b-Pawns and the e6-Pawn. Learning to “see the Pawns through the pieces” is a good skill. Also circle the a3- and c3-squares as outposts.
- Diagram #4 Circle: White's a3-Pawn and the doubled c-Pawns. Black's d7-Pawn and the d6-square. Note Black can eliminate both weaknesses with a move like Pawn to d6, trading.

Practice Page 2: Find the weakness

- Diagram #1 Circle: Black's d5-Pawn.
- Diagram #2 Circle: Black's b7-Pawn, the b6-square, and the doubled f-Pawns.
- Diagram #3 Circle: White's h2-Pawn and the h3-square; Black's d7-Pawn and the d6-square. Note that the f2-Pawn and the b7-Pawn are not backward because they have the support of brother Pawns: the e-Pawn for the f2-Pawn, and the a-Pawn for the b7-Pawn.
- Diagram #4 Circle: Black's b7-Pawn, d6-Pawn, the d5-square, and the b6-square.

Classroom Activities

Activity 1: Set it up!

Activity goal:	Being able to recognize fundamental positional weaknesses; reinforcing the three types of Pawn structures that create positional weaknesses. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Set up empty chess boards and pair the students.
- Provide students with all of the Black and White pieces.
- Students will work together.
- Call out a type of positional weakness (i.e., “Doubled Pawns on the c-file for Black,” “Backward Pawn on c7 for Black that gives White an outpost square,” etc.
- Students set up each example and raise their hands together when they are ready for you to review their composed position of the structural weakness.
- Next, have students set up opposing pieces to attack the positional weakness on the board. They can work together to do this. Additionally, they can try to use pieces to protect the weakness.
- This teaches them to think from the perspective of the positional weakness first and then place their pieces accordingly, increasing their ability to spot and then plan around positional weaknesses in real game situations.

Coach/Teacher can use as many examples as he or she wants in this activity, adding more or fewer pieces and weaknesses per exercise. This tests students’ knowledge of positional fundamentals while allowing students to practice creating attacks and defenses against various positional weaknesses.

Activity 2: Easy Endgame

Activity goal:	Being able to recognize fundamental positional weaknesses, reinforcing the three types of Pawn structures that create positional weaknesses. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)
Addition and subtraction within 20:	CCSS.Math.Content.1.OA.A.2,1.OA.C5; 2.OA.B.2 (1-2) (See Appendix)

Instructions

- Set up chess boards and pair students.
- Have students set up a starting position in which White has only two Pawn islands and Black has a total of four Pawn islands, but each side has an equal number of Pawns. Each side will also have one Rook to be placed on the board.
- Tell students that White does not need to have any doubled Pawns or isolated Pawns, but Black must have at least one of these weaknesses in his or her position.
- Have White try to win against Black in the Endgame example the students have created, planning and attacking Black's positional weaknesses.
- Once White is successful, have the pairs of students switch sides. This time, the other student has the opportunity to try to take advantage of the positional weaknesses as White, while the other student defends as Black.
- Afterward, Coach/Teacher can have the entire group discuss what kind of principles, ideas, and attacks they used as White to prey upon the weaker Black Pawns.

Coach/teacher may use a chess clock to set a limited amount of time to complete this exercise, i.e., 15 minutes, 10 minutes, etc.

LESSON 18

Lesson 18: Learning to Plan with the “Little Guys”



Overview

Lesson 18 revisits the “little guys” (Pawns) for a more in-depth look at the common plans associated with Pawn structures. In our previous chapters on pawns, students learned how awareness of types of pawn weaknesses (doubled, isolated, backward, etc.) can contribute to a player’s overall positional strategy. In this lesson, however, students learn about the ways in which Pawn structures and formations as a whole can significantly improve a position, and their chances to gain an advantage. This lesson highlights some of the key advantages a student can obtain, by focusing on the placement of his or her Pawns and how she or he uses them, as well as effective strategies for maximizing Pawn potential.

Part 1 shows students several examples of Pawn majorities and minorities. Students learn specifically that a Pawn majority can be used to create a passed Pawn, an advantage students know is colossal from earlier parts of the curriculum. In addition, the lesson shows how Pawn minorities are not always a disadvantage, and teaches students how to play with a Pawn minority successfully. Part 2 emphasizes some general tips about Pawn structure and how players can actually coordinate it with their pieces. For example, Pawn chains help direct the flow of pieces, which naturally follow the direction in which a Pawn chain is pointing. Students see examples of how pieces gain coverage and flexibility when they go along with the flow of the Pawn chain or formation. Part 3 shifts the focus to how Pawns can help create a significant space advantage. The more space a player has, the more options his or her pieces have to move across the board, creating both positional and tactical possibilities.

The Practice Pages and Classroom Activities allow students to master playing with Pawns. While Pawns are the weakest member of the army on the board point-wise, their strength is often found in numbers, and by using them in a coordinated way! A student who masters advanced pawn play will often control the entire board, and be able to dictate both her or his plan and the options of an opponent. These concepts use the Common Core State Standards (K-5) expectations of Geometry: angles, lines, shapes and coordinates, and ELA-Literacy: Speaking and Listening. Recognizing changes in Pawn structure and how it can impact your position is a skill students need to react effectively to the changes that occur in a position throughout the different stages of a chess game.

Teacher's Guide

Pawns are tricky! Chances are that even some experienced coaches reading this lesson haven't ever truly approached a chess game from the Pawns' perspective. That makes the material in this lesson tough, but extremely important.

Many positions in chess offer one side a Pawn majority and the other, naturally, a minority. The simple version of the story is that a majority is more of a long-term advantage, which can be executed more aggressively as the pieces are traded. With fewer tactics and complications, especially in the Endgame, it is easier to advance the Pawns up the board safely. On the other hand, a minority, because it offers open files and space that a majority does not, can be a dangerous Middlegame tool. Why? It is generally easier to advance fewer Pawns up the board, especially with the help of pieces on the open files.

The first step in understanding Pawn structures and formations is to learn that, although there are many different types of Pawn structures and many different versions of each, they can essentially be broken down into two major categories: open center positions and closed center positions. The examples in Part 2 provide some general guidance on how to approach both open and closed positions, as well as some practical advice on structures in general.

Space is a tricky matter to understand at beginning levels, but we recommend referencing the point made in the summary of Part 3: when a Knight stands directly behind a Pawn, their combined attacking powers double, whereas a Knight standing in front of a Pawn stands alone. The basic concept of Space 101 is this: when the pieces work from behind the Pawns, they constrict and attack more squares than they do when they block the Pawns.

Practical Notes and Advice—Lesson 18

- Do not assign the worksheets until the lesson has been reviewed in its entirety.
- Try to instill in your students that even though Pawns may seem boring, using them well is vital knowledge. Why? Because Pawn moves can never be taken back! Learning to play with the Pawns is critical.
- Review Lesson 17 (positional weaknesses) with your students if necessary.

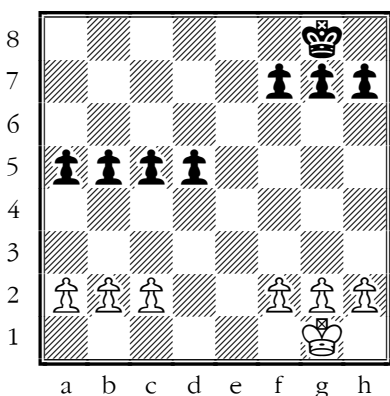
Lesson 18

Part 1: Pawn Majorities and Minorities: the Basics of Pawn Play

Key Concepts

- What is a Pawn majority?
- What is a Pawn minority?
- What are the advantages of a Pawn majority and/or a Pawn minority, and how do we use them?

Pawn majorities: what is a Pawn majority, and how do I get one?



The word "majority" essentially means "more." Black has more Pawns.

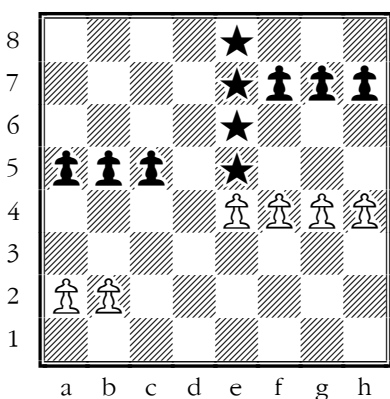
As you learned in Lesson 17, the littlest chessmen can be awfully important. Here we learn that the basics of Pawn play and the advantages associated with Pawns can be just as crucial as learning about positional weaknesses. Our first diagram is going to teach us how to recognize a Pawn majority in any chess game we play.

The position to your left is simple: Black has a Queenside Pawn majority. This means that on the Queenside of the board, Black has four Pawns against White's three Pawns. If nothing else was happening in this position, Black would have a winning advantage. Note that the Kingside Pawns are equal—no majority for either side.

Essential Question: Level II: Comprehension

How would you explain to a beginner chess player why a Pawn majority and the threat of advancing, trading, and promoting a Pawn is such a big deal?

Pawn majorities, example 2: a potential, pretending passer is looming.



Both Black's c-Pawn and White's e-Pawn are pretending passers.

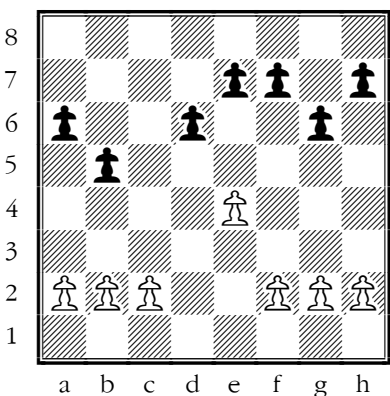
The true advantage of a Pawn majority is the unchallenged Pawn that cannot be directly blocked by the enemy. We call these Pawns *pretenders*, because they are almost passed Pawns—not quite, but close. White's e-Pawn and Black's c-Pawns need only the help of their brothers (the b-Pawn for Black and the f-Pawn for White) to become passed Pawns.

The white Pawn's path is highlighted by stars to show how it is unblocked, and Black's c-Pawn is every bit as good. Every good majority—meaning a majority without doubled or broken Pawns—has a pretender waiting to become a real passer. An easy plan is to advance the Pawns forward, making trades where necessary, and attempt to turn the pretender's dreams into reality.

Essential Question: Level II: Comprehension

How would you explain the value of *pretender* and *passer* in your own words?

What is a Pawn minority, and is it always bad?



Without the pieces to use the open files and space, a minority is no good.

The word *minority* means “less” or “fewer,” so it is the opposite of majority. If a chess position comes down to just the Pawns (meaning no pieces or other factors), a minority is never a good thing. The minority is simply outnumbered, and trading will eventually leave the majority with an extra Pawn. In this common structure from the Dragon Sicilian opening, Black has a Pawn minority on the Queenside, with the a- and b-Pawns outnumbered by White's a-, b-, and c-Pawns.

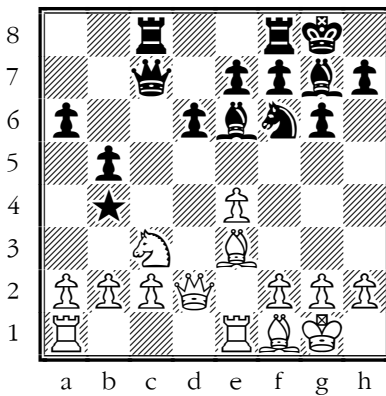
Before we move on to looking at this structure with the pieces on the board, let's note the one good thing about having a Pawn minority: by definition, if you have one less Pawn, that means you always have an open file to go with it. This structure, for example, leaves Black with

a potentially open c-file for either one or both of his Rooks.

Essential Question: Level II: Comprehension

What is the main idea behind the importance of a Pawn majority?

Minorities can be good when the pieces are involved.



Pawn minorities can't win on their own, but they can be good for the other pieces in the Middlegame.

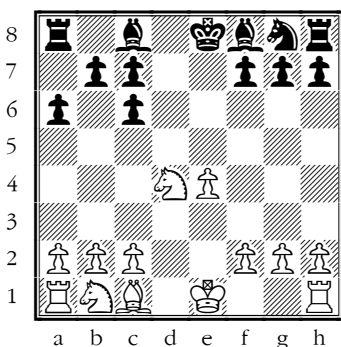
Do you recognize this Pawn structure? It is exactly the same as the previous diagram, except we have added pieces. Suddenly, the tables have turned! Black has an open c-file for his Rook and Queen, and after the last move 1...b5!, Black threatens to kick the c3-Knight. This means that Black is about to attack the e4-Pawn with his f6-knight, as well as the c2-Pawn with the Queen and Rook.

We see here that Black's open space on the Queenside has led to active piece play for the b5-Pawn, the c8-Rook, the Queen on c7, the e6-Bishop, the f6-Knight and even the Bishop on g7 (once the Knight on f6 moves). Black is slightly better in this position, and happy to have the Pawn minority, since it makes Queenside play a breeze!

Essential Question: Level III: Application

In the given position, what approach would you use if it were your move as White?

A practical majority example: the Ruy Lopez, or Spanish exchange variation.



1.e4 e5 2.Nf3 Nc6
3.Bb5 a6 4.Bxc6 dxc6
5.d4 exd4 6.Qxd4
Qxd4 7.Nxd4.

Our final example shows a main line opening variation (also reviewed at the end of Lesson 17, Part 1) in which White has achieved a majority on the Kingside. You will find the moves played to reach this position listed beneath the diagram. White has just played 7.Nxd4.

Though Black has compensation right now because of his Bishop pair and easy development (again, refer to Lesson 17, Part 1 for a deeper explanation), if White is able to simplify this position down to just the Pawns, the four versus three Pawn majority on the Kingside should be enough for a White victory. Notice that White's e4-Pawn is the pretending passer in this Pawn structure, while Black's Queenside majority is almost useless.

Essential Question: Level III: Application

What questions would you ask yourself before making a plan as White to try and simplify this position?

Part 2: The Basics of Pawn Structure and Advanced Pawn Play

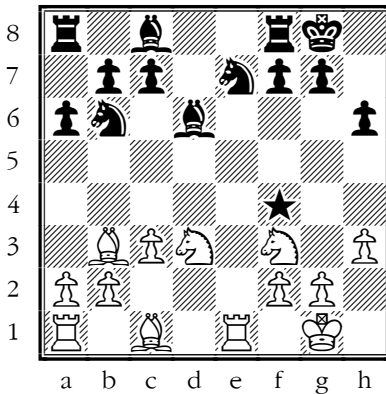
Key Concepts

- What is a Pawn structure or formation?
- Learning to listen to your Pawns.
- Swimming with the river: learning to play with Pawn chains.

Weaknesses having to do with Pawns, whether they are the Pawns themselves or the squares around them, are usually permanent. The same can be said for Pawn majorities and minorities. Pawn structure (also referred to as Pawn formation) does not normally change as rapidly as pieces are traded. Because of this, plans you make for your Pawns tend to be solid ones, taking advantage of the relatively static features of the position.

Structure, or formation, refers to everything having to do with the Pawns: the Pawns themselves, the individual square weaknesses around them (like holes and outposts), and even the open files and diagonals created by Pawn moves and trades. Squares, open files, and open diagonals often determine the best moves and plans for the pieces, and it is for that reason that learning to plan with your Pawns is so important.

Basic structure #1. The open center: Pawns tell the pieces where to go.



Without the Pawns trading in the center, the pieces wouldn't be so happy. In this open center position, White's pieces are very active, especially the Rook on the open file.

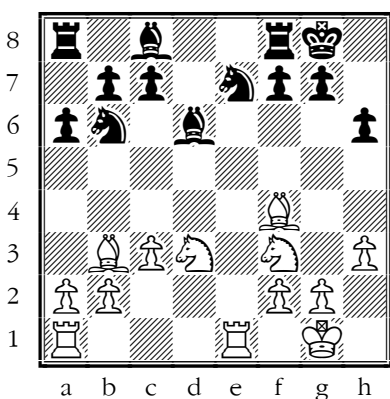
Think about it: until you start moving your Pawns, you have no open files, no open diagonals, and no weaknesses or strengths to speak of. So what do we do with this new, very scary knowledge that the little guys are much more important than we ever thought possible?

Learn how to play with Pawn structures! Learn to recognize them, find plans, and eventually try to master every Pawn formation occurring regularly out of the Openings you play. Your Pawns are talking to your pieces, telling them what to do and showing them where to go (diagonals, files, squares, etc.). Your pieces just have to listen.

Essential Question: Level III: Application

Using the facts in this position and others, explain in your own words why it makes sense to use the open spaces the Pawns have provided in the open center, instead of trying to create new open lines away from the center.

Basic structure #1, continued. The open center = strong pieces = good tactics.



(Continued from the previous diagram.) In Kramnik-Krasenkow, Wijk aan Zee 2003 Kramnik played 16.Bf4!

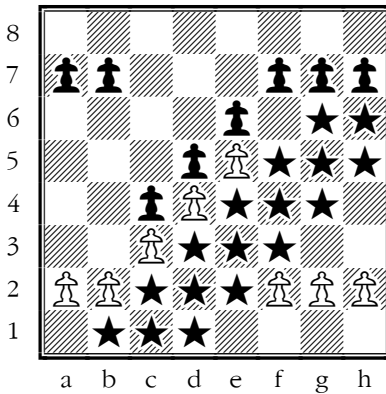
With his last move, World Champion Vladimir Kramnik was listening to what his open center and e-file were telling him to do: be aggressive with the pieces! White is more active, and with his last move, White is threatening to capture on d6 and then grab the e7-Knight with the Rook on e1. Krasenkow played 16...Ng6 to avoid losing a piece, but after 17.Bxd6 cxd6 18.Re4-d4!, Kramnik piled up and eventually won the now isolated d6-Pawn, which was eventually enough for him to win the game.

This simple example is designed to make one critical point: when the central Pawns have been traded, open squares, open files, and open diagonals are begging for pieces to use them. So be aggressive in the center when it opens up, put your pieces on strong squares, and attack!

Essential Question: Level III: Analysis and Application

Using your knowledge of why isolated Pawns (the d6-Pawn after the moves above) are weak, why do you think Kramnik's plan of Re4-d4 was good? Suggest what you think White's plan might have been after that.

Structure #2. Pawn chains: learning to “swim with the river.”



Pawn chains arise from many different types of Opening variations, but this specific Pawn chain most likely occurred from the French Defense.

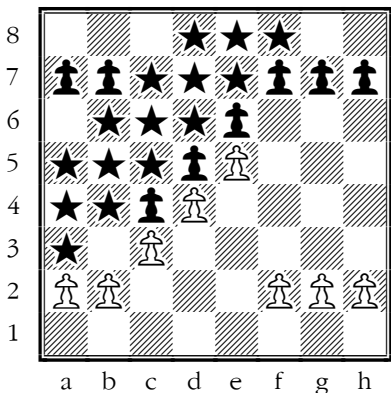
Pawn chains create positions where a very specific type of plan is best for each player. In particular, both White and Black will generally need to focus solely on one side of the board, attacking and creating threats behind their wall of Pawns. White's center Pawn chain runs from b2 to e5 in this example, while Black's extends from f7 to c4.

We often refer to this idea of attacking in the direction of our Pawn chain as “swimming with the river.” This means that when the flow of a position is heading in one direction—in this case, White's b2-e5 chain is pointing towards the Kingside—trying to attack on the other side of the board would be like swimming upstream, with White's pieces being constantly blocked by Pawns. On the other hand, the Kingside lines are wide open, with the b1-h7, c1-h6, and d1-h5 diagonals ready for White's pieces to use in the attack.

Essential Question: Level IV: Analysis

Can you compare and contrast all the ways this position is different from our first open-center Pawn structure example?

Same chain, different perspective.



The d8-a5, e8-a4, and f8-a3 diagonals are Black's to control and use.

Taking a look at the same Pawn chain from Black's perspective, we see a similar plan should be used, but executed on the other side of the board. Black's pieces will naturally find open space on the Queenside in this type of structure. Often, a player might also continue to gain space (see Part 3 for more on space) on the side of the board in which the chain is headed.

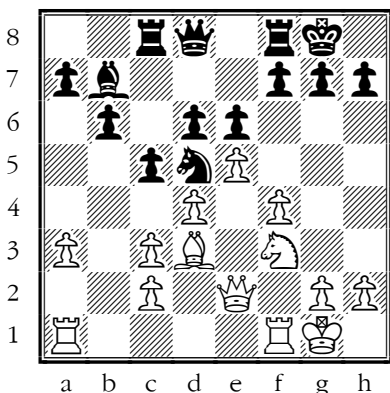
For example, Black might consider advancing the a- and b-Pawns together, along with the pieces, in an attempt to create an attack on the Queenside. We have stripped both diagrams of the pieces in order to highlight what the Pawn chains, in their pure form, are telling the pieces to do: swim with the river, and attack in the direction of your Pawn chain.

Essential Question: Level IV: Analysis

What ultimate goal do you think Black has in mind when he is advancing the a- and b-Pawns?



Structure #2. Pawn chains: practical game example.



White's Pawn chain is responsible for Black's problems: the f6-Knight would have guarded h7 if not for the Pawn chain c3-d4-e5, forcing the Knight to abandon the protection of h7.

Here, we see a game from the library of IM Daniel Rensch, the author of this curriculum (username "PoppaBear" on ChessKid.com). In this game, his opponent underestimated the power of the c3-e5 Pawn chain. By advancing 17.e5!, White forced the removal of the Knight from f6. Black played 17...Nd5—seemingly a good move that forks the f4 and c3 Pawns. However, without the Knight on f6, Black was suddenly vulnerable to a well-known idea. Can you see what White should do?

If Black had appreciated the power of White's pieces when playing with the Pawn chain, he might have defended better. Here, White finished the game with 18.Bxh7+!, a common sacrifice known as the Greek Gift, which leads to a deadly mating net. After 18...Kxh7 19.Ng5+ Kg8 20.Qh5 (mate coming on h7) Re8 21.Qxf7+ Kh8 22.Qh5+ Kg8 23.Qh7+ Kf8 24.Qh8+ Ke7, and 25.Qxg7 checkmate!

Essential Question: Level V: Analysis

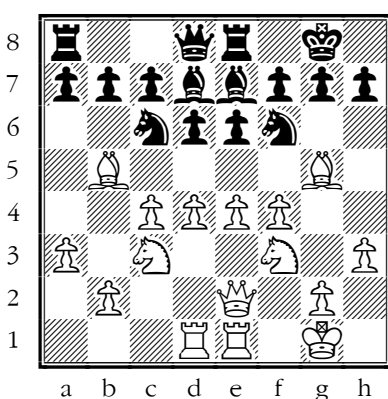
Choose what Black could have done to defend the position better, both before and after White's 17th move. Can you analyze the position to find an outcome?

Part 3: Advanced Pawn Play, Space, and Building Strength

Key Concepts

- What is *space* in chess?
- Learning to build strength in your position.

Building strength, example 1. What is space in chess?



More space often means better pieces.

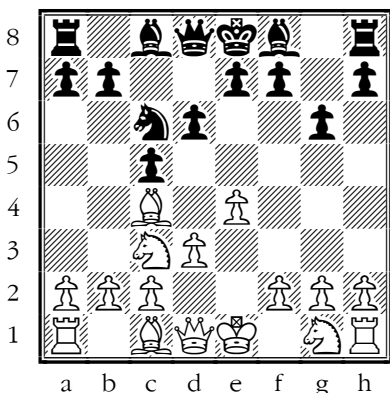
Our final topic of discussion regarding Pawns is not specific to any structure or formation, but rather a general plan to keep in mind throughout your games. When play is roughly equal, with both sides fighting for better pieces (since better pieces lead to better tactics), the most effective way to make your position stronger is to *build strength*. Building strength can also suggest looking for stronger (more active) squares for your minor pieces, but it most often it means to gain space.

In chess, the term *space* is defined as all the squares your army controls or occupies behind your furthest advanced Pawns. In our current diagram, White has more space than Black, because his Pawns are further advanced and control more of the center. These Pawns also constrict Black from improving the minor pieces.

Essential Question: Level V: Synthesis

How would you modify Black's plan to gain more space to improve the position? If you don't see any obvious way to do so, suggest a plan Black should have adopted earlier to prevent this cramped position.

Building strength, example 2. Learn to gain space and use it.



*In the Closed Sicilian:
Grand Prix Attack. White
plans to attack on the
Kingside.*

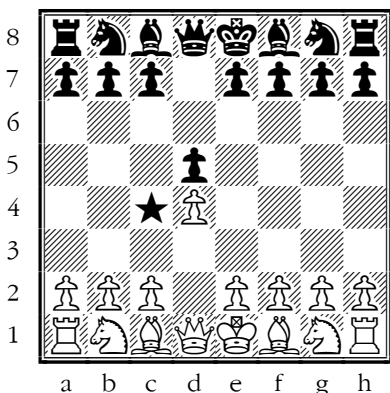
Gaining space is almost always a good idea, and though not every position can be as good or offer as much space as our previous diagram, you should never stop striving for more space and better squares for your pieces. What should White play here? Develop the Knight to f3, or play Pawn to f4 first?

5.f4! is, of course, correct. Gain space for your pieces when you can. By developing the Knight to f3 on the next move behind the Pawn, White's chances of a successful Kingside attack are much greater. Using the principles of both Pawn chains (notice that White's c2-d3-e4 chain is facing the Kingside and is clearly better with White's f-Pawn advanced) and gaining space, White can now involve the f1-Rook in a Kingside attack after getting castled. All of White's pieces will find space on the Kingside after the f4 push!

Essential Question: Level V: Analysis and Evaluation

How would you evaluate, based on your knowledge of Pawn chains, where Black might look to attack and plan in this position?

Continue to think about your space before developing.



After 1.d4 d5, White needs to think about a plan before just developing the pieces. The plan to attack on the Queenside after 2.c4 is a good one.

Our Closed Sicilian example showed that if White thinks about the Pawns and considers how the pieces can attack together before developing the Knight to f3, then White can grab the early chance to gain space (5.f4!), thus setting up a much better chance of attack on the Kingside. Space offers your pieces avenues of attack that didn't exist before.

Going back even further in the Opening stage, the Queen's Gambit is a perfect example of needing to gain space before developing. Many amateur and beginner chess players might play 2.Nc3 here. The problem with that move is that White applies no pressure to the center against the Queen Pawn, because the d5-Pawn is easily protected by the Queen on d8. Instead, White needs to play 2.c4 first, and then bring the Knight out behind the c-Pawn. In this case, White will naturally put more pressure on the center (d5) and be able to develop pieces towards the Queenside more easily.

Essential Question: Level V: Synthesis

Based on what you've learned so far, how would you explain other times when you might want to move a Pawn before developing a Knight, in hopes of increasing your control over an area of the board?

A common theme of gaining space (displayed in both examples 2 and 3) is that developing a Knight behind a Pawn can increase the pressure on the squares you are attacking. Whenever a Knight is directly behind a Pawn, the squares the Pawn can possibly capture are also attacked by the Knight. This means that, when possible, it can be a good idea to advance a Pawn first and develop the Knight behind the Pawn. The extra space gained by advancing the Pawn first is also useful to the rest of your army.

However, we will also warn at this time that these are advanced developing tips, and should be applied with caution. Whenever you sacrifice the development of a piece to make a Pawn move, you risk falling behind in development. Understanding the purpose of the moves 5.f4 and 2.c4 in the diagrams of this lesson will help you make this distinction.

Look for your chances to gain space, but don't be careless with Pawn moves in the Opening. The purpose of this lesson was to introduce the basic concept of approaching a position from the Pawn's perspective first, and then think about where your pieces should go—which is why we encouraged the development of a Knight (and other pieces) behind the Pawns. Of course, the ultimate goal is to see your entire army as one, Pawns included, and coordinate them to work in unison.

Lesson 18 Summary and Linking Content to Standards

In Lesson 18, students focused on the advantages a strong Pawn structure can provide. From majorities, to minorities, Pawn chains, and building strength, students saw both technical and practical applications of these formations and strategies. They experienced how good Pawn structure not only improves a student's Pawn play, but also substantially increases the options that his or her pieces have in a given position. Students learned that Pawns create all kinds of possibilities for pieces by protecting and guiding them to squares and parts of the board that give them the most potential. The skills that come along with advanced Pawn knowledge align with the Common Core State Standards, including Geometry: Lines, angles, shapes and coordinates (K-5) and ELA-Literacy: Speaking and Listening.

Each section highlighted various kinds of Pawn structures and explained how they can impact a position positively and negatively. Students saw examples of how a Pawn majority can increase their chances of creating a passed Pawn, giving them a significant edge in a race to promotion. They also learned how Pawn chains help dictate the flow of the game, and how pieces that follow the structure of the Pawn chain are often more successful. Students saw some practical examples of Pawn structure that arise from common Openings like the Ruy Lopez, French Defense, and Sicilian Dragon.

Students should now be able to recognize some of the major positional weaknesses and strengths that occur due to changes in Pawn structure. Advanced Pawn play is critical to increasing a student's knowledge about Pawns and their strengths, as well as their awareness of how Pawns impact the rest of the pieces on the board. Being able to think critically to solve a problem aligns well with the expectations outlined by district-mandated assessments like Partnership for Assessment of Readiness for College and Careers (PARCC). Students demonstrate problem solving and the ability to take information provided and express ideas with others through collaboration. Elaborating on the information provided enables the student to demonstrate knowledge through constructed responses on paper through writing, illustrations, speech, and technology, when appropriate.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

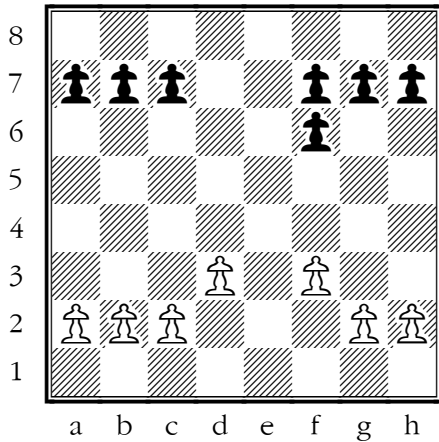
Mathematics: Know Number Names and Count Sequence

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)

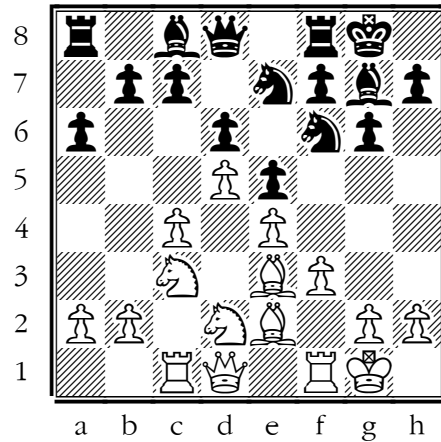
Practice Pages

Practice 1: Playing with the Pawns

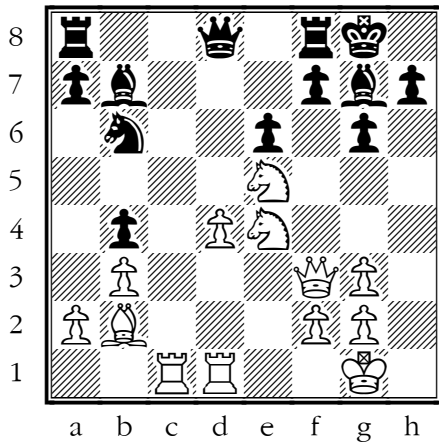
Beneath each diagram is a question about the given Pawn structure or position.
Circle the correct answer to each question.



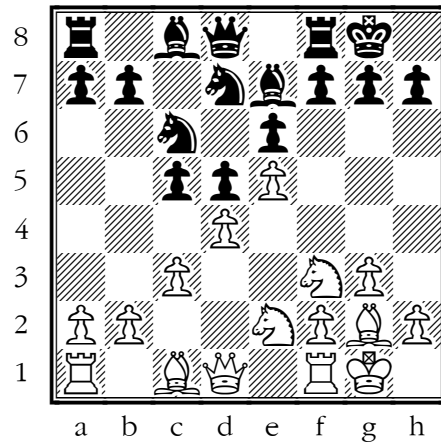
Who has the better Pawn majority?
White Black



Which side should White attack?
Kingside Queenside



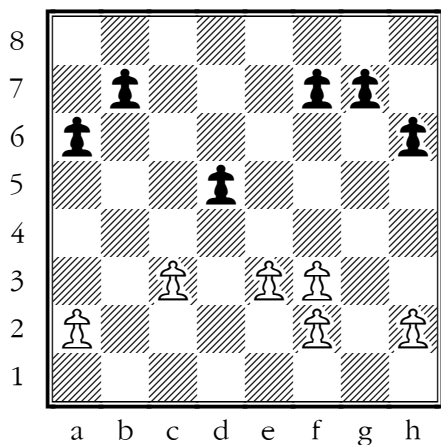
Who has more Pawn weaknesses?
White Equal Black



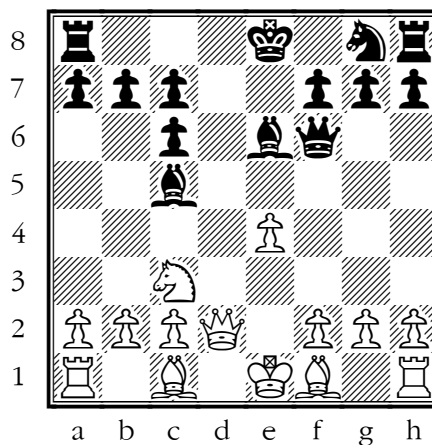
What side should Black attack?
Kingside Queenside

Practice 1: Playing with the Pawns

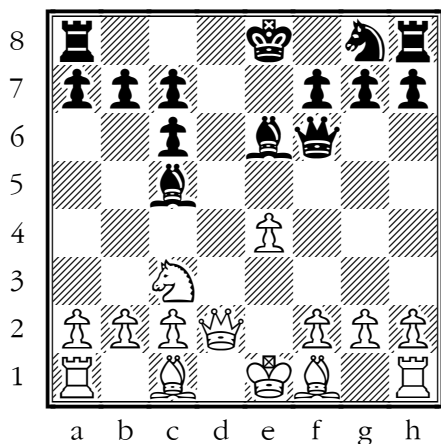
Beneath each diagram is a question about the given Pawn structure or position.
Circle the correct answer to each question.



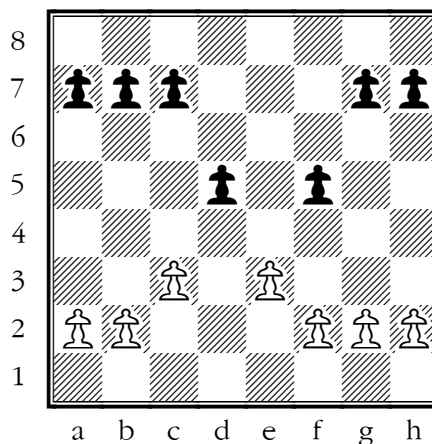
Who has more Pawn islands?
White Equal Black



Same position: whose Pawns are better?
White's Equal Black's



Where should Black be attacking?
Kingside Center Queenside



Who has the better Pawn majority?
White Equal Black

Answer Key

Practice Page 1: Playing with the Pawns

- Diagram #1 *White.* White's Queenside Pawn majority is a better four-vs-three than Black's, because Black's f-Pawns are doubled and therefore ineffective.
- Diagram #2 *White.* White's a2-Pawn is backward, the d4-Pawn is isolated, and the g-Pawns are doubled. Black has no Pawn weaknesses.
- Diagram #3 *Queenside.* White's Pawn structure, led by the advanced d5-Pawn, is facing towards the Queenside. A plan such as 1.b4 followed by c5 and Nc4 makes sense for White.
- Diagram #4 *Queenside.* Black's Pawn chain (f7-e6-d5) provides space on the Queenside. Black should use his c5-Pawn and moves like 1...Qb6 to put pressure on the center. Notice that Black uses the Queenside space to develop the pieces for central pressure.

Practice Page 2: Playing with the Pawns

- Diagram #1 *White.* White has four Pawn islands.
- Diagram #2 *Center.* Black's Queen and Bishops, as well as the Rook coming to d8, apply pressure to both sides of the board, but the center is the most natural place to attack when the Pawns have been traded to create open files and diagonals.
- Diagram #3 *White.* White has a four-versus-three Kingside Pawn majority.
- Diagram #4 *Equal.* Though the structure may not be symmetrical, neither side has a majority because the Pawns prevent progress by capture.

Classroom Activities

Activity 1: Pawns in action

Activity goal:	Being able to recognize fundamental positional weaknesses that stem from Pawn structure, reinforcing the advantages associated with strong Pawn play. (Parts 1 - 3)
Comprehension and collaboration:	CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)

Instructions

- Set up empty chess boards and pair students.
- Provide students with all eight Pawns of each color and Black and White Kings.
- Have students set up the following position:
 - White's Pawns: a2, b2, c2, d2 and Ke2
 - Black's Pawns: a7, b7, c7, c6 and Ke7
- Have students play this Endgame, one player as White and one as Black. Focus on the advantages and disadvantages each side has in Pawn structure and how that impacts Endgame options.
- Next, have students collaborate to create an example where Black has significant advantages in Pawn structure, while White has some weaknesses. Have the students also play out this Endgame.

After students complete these examples, the Coach/Teacher can have the group come together and talk about why Pawn structure gave them either an advantage or disadvantage in the Endgame.

Activity 2: The Pawn game, with a twist

Activity goal:	Being able to recognize fundamental positional weaknesses that stem from Pawn structure, reinforcing the advantages associated with strong Pawn play. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)
Counting:	CCSS.Math.Content. CC.A.1 and 2 (K-1)

Instructions

- Set up empty chess boards and pair students.
- Have students set up a starting position for a Pawn game:
 - All eight Pawns on their starting squares
 - Kings on their starting squares
- Have Black modify the position by moving his h7 Pawn to g6 and his a7 Pawn to b6 before the students begin.
- White moves first. Have White try to win against Black in this example using the positional weakness (doubled Pawns) in Black's Pawn structure as an advantage.
- Once White is successful, have the pairs of students switch sides: this time the other student has the opportunity to try to take advantage of the positional weakness as White, while the other student tries to defend the Pawn game as Black.

Coach/Teacher may use a chess clock to limit the amount of time to complete the Pawn game, i.e. 15 minutes, 10 minutes, etc.

LESSON 19

Lesson 19: Bad Pieces and Other Advanced Piece Play



Overview

Lesson 19 of our curriculum shifts the focus away from Pawn play and back to the core pieces that make up the King's army. Students are shown how to recognize and assess the value of the pieces on the board, as well as how to maximize the value of their own pieces in any given position. This lesson highlights ways in which pieces can actually have a lower value than their assigned one and how students can avoid getting these types of bad, misplaced, and "grim" pieces.

Part 1 emphasizes that chess pieces have both a nominal and an absolute value. While every piece on the board has a nominal, or assigned, value no matter what the position, the absolute value of a piece changes given the piece's position on the board. Students are shown how to boost their pieces to a larger absolute value thanks to the dominating control they have on the board. Part 2 teaches students how certain pieces can suffer, and therefore have a lower absolute value in specific positions. Minor pieces, i.e., Knights and Bishops, are especially vulnerable to being restricted, and therefore can become "bad" pieces. Students are shown a variety of ways to avoid bad Knights and Bishops, and also how to restrict their opponent's minor pieces so they become restricted and lose absolute value.

The Classroom Activities help students master advanced piece play concepts with practical exercises. Students are at the stage where they must maximize the potential of their pieces in order to be successful against stronger competition. Skills such as being able to assess the value of all the pieces in a position, then recognize and punish the bad pieces through a student's ability to visualize the board, require precise knowledge of Geometrical concepts like angles, shapes, lines and coordinates, tying back to the Common Core State Standards that now drive instruction in the schools. A student who can think critically, express his or her thinking, and play a game of chess with good pieces while forcing an opponent to have bad ones, will greatly increase their chances to win a chess game.

Teacher's Guide

Making a study of when good pieces go bad is a logical follow-up to the introduction to Pawn structure in Lessons 17 and 18. With correct application of Lessons 17, 18, and 19, a beginning player should now be thinking about his or her army as a whole. They come to understand that Pawns affect pieces, that misplaced pieces can lose material, and that the loss of material will eventually cost them the game.

No Practice Pages are provided for Lesson 19, as we believe the examples given are clear enough to illustrate each concept. Though Lessons 17, 18, and 19 are a big step up for most beginning chess players (and likely some coaches too), understand that mastering every advanced point about structures and piece play is less critical than the general principle of interplay between the Pawns and pieces.

At the beginning stages, development, getting castled, and simply using all the pieces is enough to play a decent chess game. However, at more advanced levels, harmony within your army is very important in battle. Try to recognize that all pieces, especially the minor ones, have their preferred squares; they are not to be developed randomly.

Practical Notes and Advice—Lesson 19

- If you have extra classroom time, review Lessons 17 and 18, reminding students that it's advisable to have the Pawns and pieces play together. Because the Pawns can't go back, every Pawn weakness is a target for a piece. Structures also suggest where to put pieces, as long as the pieces know how to listen.
- The Classroom Activity, allowing time for practice games, and asking the students to call out when either a Knight is on the Rim or when they see a Bad Bishop, helps cement the idea of keeping your pieces happy.
- Every time a coach observes a student's game and sees a Big Pawn (i.e., a Bad Bishop that may as well be a Pawn), point this out, along with a suggestion as to
 - a) how the Pawns can move themselves, thus freeing the Bishop, or
 - b) how it could have been avoided.

This is very helpful in teaching not only the concept of the bad Bishop, but that Pawns have a large role in determining what options a Bishop will have in a game.

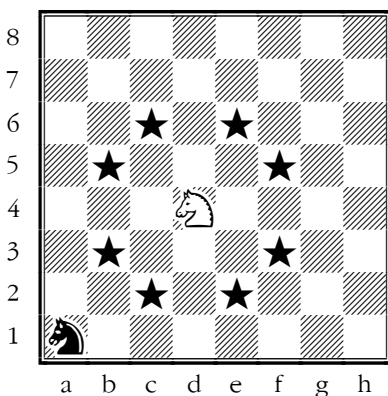
Lesson 19

Part 1: Cramped/Bad Pieces: Nominal versus Absolute Piece Power

Key Concepts

- The *real* value of your pieces is their activity.
- The best and worst positions for your pieces.
- The nominal piece values versus the actual power of the pieces.

Nominal versus absolute power, example 1: the centralized Knight dominates.



The d4-Knight must be seen as a better piece than the a1-Knight.

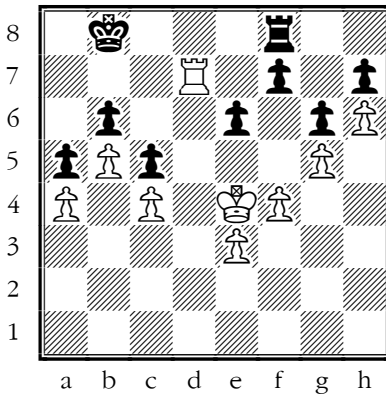
The nominal value of each chessman is its point value, which we covered in the introduction. The point values assigned to each piece are based on both their potential power and on their relationship to the power of the other pieces, i.e., a Rook can potentially control more squares than a Bishop, so it's worth more.

But those values are given before considering anything about the specific position. A piece's *absolute* or *actual* power will always depend on the exact position. The easiest way to illustrate this concept, before moving onto trickier examples, is to compare a Knight placed in the center, where it controls eight squares, to a Knight placed in the corner, where it only controls two. They are both worth three points, but clearly the centralized Knight must be worth more to this specific position.

Essential Question, Level III: Application

Which piece controls only three squares when placed in the corner, but eight in the middle of the board?

Nominal versus absolute power, example 2: Rooks on the seventh rank.



*After 1...Kc8 White played
2.Re7 Kd8 (what else?)
and 3.Rb7, winning the b-
Pawn and the game.*

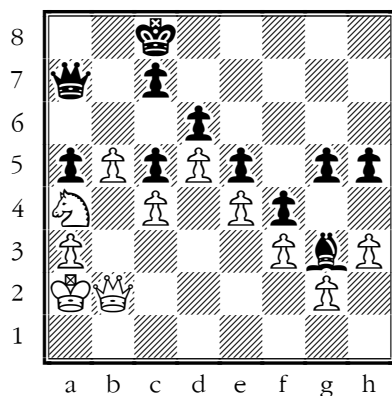
In our second example, the White Rook and King take the spotlight. Again, the nominal value of all Rooks is considered five points each, but White's Rook on d7 controls the only open file (d-file) and is dominating the seventh rank. This is important, because Black's Rook cannot leave the f8-square as long as White's Rook is attacking the f7-Pawn. What can Black do?

White's King, also worth much more in absolute terms than his Black counterpart, is threatening to enter the Kingside via e5-f6-g7 and eventually destroy every Black Pawn. Black, despite all material being equal, is completely lost in this position because White's pieces are worth so much more than his or hers. White won this game shortly.

Essential Question, Level III: Application

What examples can you find from master games, or from your own, in which pieces of equal nominal value were clearly not equal in the position?

Defensive power: the value of stopping threats is just as important as pieces.



If 5.Qh1 instead of 5.gxh3, then 5...h2! is still a drawn Endgame. Despite the points, Black can draw.

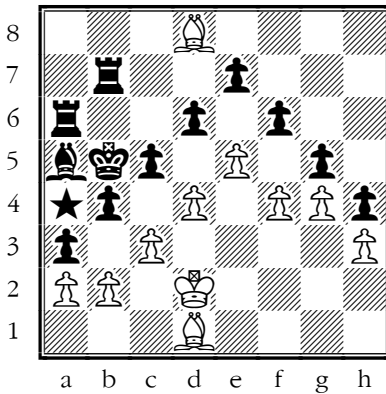
The most important thing in chess is the ability to make actual threats, not just the nominal value that each piece is supposedly worth. That is the key to this lesson! This knowledge can also be applied defensively. Here Black, anticipating White's Queenside breakthrough, found a brilliant move that lost the Queen, only to save the game.

White is threatening 1.b6!, after which the Bishop on g3 will be useless to White's Queenside play. After 1...Qb6!!, Black sacrificed his Queen to close up all White's play. After 2.Nxb6+ (White could try to keep the pieces on the board, but the game would still be a draw with best play) 2...cxb6 3.h4! (otherwise h4 by Black) gxh4! 4.Qc1 h3!! 5.gxh3 h4!, and Black has closed up the entire position for a draw.

Essential Question, Level III: Application

Can you give an example in a chess game where it would be worth sacrificing points to increase the actual power of one of your pieces, or decrease the actual power of one of your opponent's pieces?

Practical example 1: Defend Like a genius.



This famous problem is known by many as a fun and wacky way to draw.

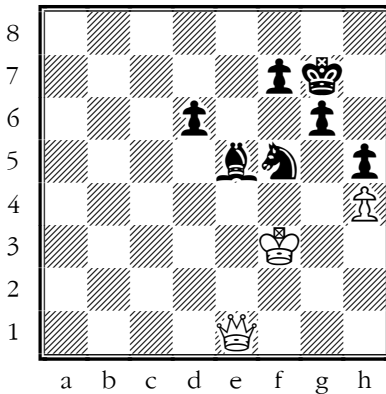
Another great example where the theoretical value of the pieces doesn't live up to their actual abilities in the position is this fun exercise. White to play and draw? Almost every piece and every Pawn is under attack by Black, but White has a brilliant way to solve all the issues with one move!

1.Ba4+!! With this move, White forces either a perpetual check (see Lesson 20) after 1...Kc4 2.Bb3+ repeats, or a brilliantly creative draw after 1...Kxa4 2.b3+ Kb5 3.c4+ Kc6 4.d5+ Kd7 5.e6+ Kxd8 6.f5!! White has locked up the position, much like our previous example. Despite Black's extra two Rooks and Bishop, there exists no way to make progress. This puzzle highlights our points precisely!

Essential Question, Level III: Application

What approach would you use to explain to a new player in your chess club or school why White was forced to play the brilliant drawing combination shown here, given that White would otherwise be losing?

Practical example 2: The power to make threats is the most important in chess.



*White's only real option
is to sit and wait.*

Our final diagram isn't nearly as flashy or exciting as the previous one, but it does display the idea that having targets to attack is much more important than the nominal value of the pieces. Despite the equal material count, Black is the only one who can win here.

White has no threats to make even if Black chooses to shuffle the Bishop from e5-f6 forever. Black, on the other hand, can play 1...Bf6, 2...Bxh4, bring the Bishop back to e5, and begin pushing the h-Pawn. Black's minor pieces are better than the White Queen because they can make threats, while the White Queen can only watch in awe. Though this position would still take some precise play from Black to win, it's instructive to see how much more comfortable Black's army is compared to White's, despite the extra Queen.

Essential Question, Level III: Application

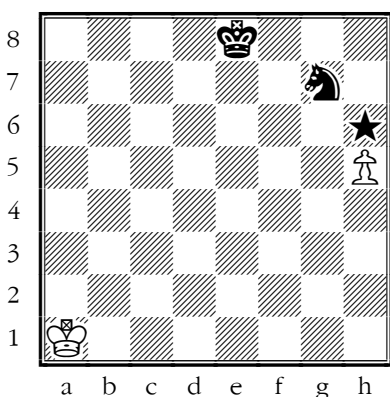
Why do you think the ability to make threats and improve your position with a plan is more important than being up by material points, in most cases?

Part 2: Sidelined Minor Pieces: Knight on the Rim and Bad Bishop

Key Concepts

- More examples of bad pieces.
- Knights on the rim (edge) are grim.
- The two kinds of bad Bishops: big Pawns and the empty Bishop.

The grim Knight on the rim meets the unstoppable Rook Pawn.



*1.h6! by White is winning.
After 1...Kf7 2.h7!, White
Queens the Pawn.*

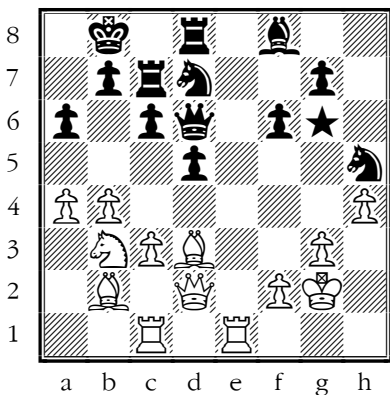
As displayed clearly in the first diagram of Part 1, a centralized Knight is much better than a Knight in the corner, or even on the rim (edge) of the board. Furthermore, if a Knight has one nemesis, it would be the outside passed Rook Pawn. In general, Knights are not the best pieces for dealing with passed Pawns, and here we see an extreme example of the little guy taking down the mighty steed!

After White's obvious Pawn advance, the Knight and the Black army as a whole have met their doom. Black's Knight, due to lack of space, is unable to stop the passed Pawn. Not even the King can save the game, as explained beneath the diagram. Notice that if there existed an i-file, the Knight could move to i6, guarding the Queening square, but we've reached the end of the board, and the end of the Knight's options.

Essential Question, Level IV: Analysis

What are the features of a grim Knight as seen in the diagram?

The grim Knight has no squares available to fight.



Unless we have good reason, we need to keep our ponies close to the action in the center of the board.

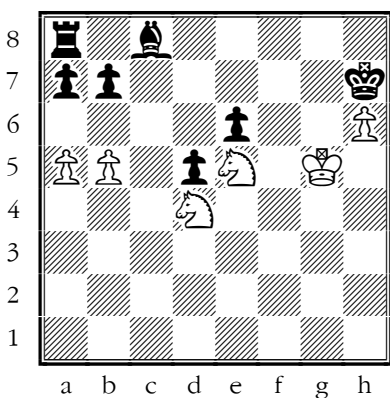
Though there are many more examples that reveal the Knight's struggles against passed Pawn(s), to clarify this point before moving on we have provided an interesting Middlegame position. Here Black, despite almost a full army available, could not help the h5-Knight out of his desperate position after White's obvious move.

1.Bg6! was played by White, and the Knight on h5 is rather surprisingly trapped. Black cannot protect the Knight with 1...Qe5? (White's Rook covers e1), and no other piece is in position to even defending. Black will lose the Knight, and not long after that, the game. Of course, Black's play was not brilliant leading up to this position, but it does make a good point: don't put your Knights on the rim!

Essential Question, Level IV: Analysis

Can you contrast and compare all three Knights on the board in this diagram?

Bad Bishop, example 1: the big Pawn blocked by its own Pawns.



A bad Bishop can make other pieces bad too, like the a8-Rook.

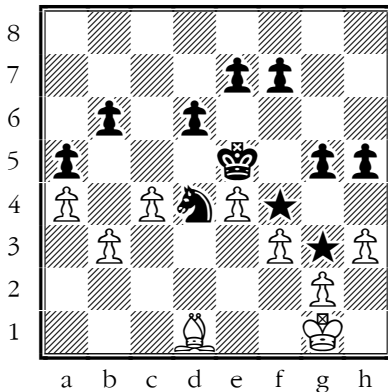
What better way to redeem the horse than by showing its dominance over the other minor piece? In this famous example from Nimzowitsch's classic book, *My System*, the Knights are ideally placed, both occupying fantastic outpost squares. White's win is not far off in this position, with Black's Queenside pieces completely sidelined.

Black's Bishop on c8 might as well be a big Pawn, given the number of squares it actually controls. Without its development, the Rook will never play. If 1...a6 then 2.b6!, and 1...b6 is met by 1.a6. White will keep the pieces sidelined, transfer his d4-Knight to f6 (via f3-h2-g4-f6), and win the game with the outside passed h-Pawn.

Essential Question, Level IV: Analysis

Can you infer what is meant when a Bishop is called a “big Pawn”?

Bad Bishop, example 2: the big Pawn is dominated by the noble steed.



Black's outposted Knight is worth two or three times as much as the d1-Bishop, despite their nominal value of three points each.

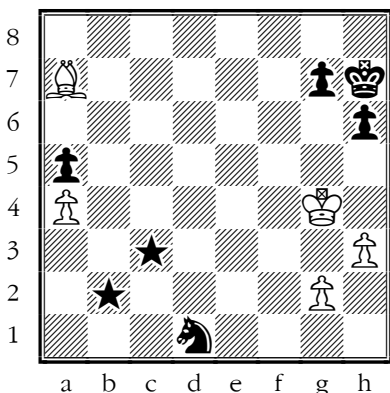
In this game, Black played 1...h4! By completely controlling the dark squares (particularly g3 and f4), Black demonstrates to White just how poor the Bishop on d1 is, imprisoned by its own Pawns. The Black King was then able to infiltrate White's camp and end the game in amazing fashion. After 2.Kf2 Kf4, White is in Zugzwang (Lesson 13).

The d1-Bishop cannot move to c2 in view of capture, and it can't move to e2 either, because the b3-Pawn falls. However, if the White King moves from f2, Black enters into e3 with his King, and may soon trap the Bishop on d1 with Kd2. This example displays the potential value of a good Knight versus a bad Bishop.

Essential Question, Level V: Synthesis

If you were White, playing this game at its earlier stages, what might you have avoided doing with your Pawns?

Bishop over Knight: the roles are reversed.



After 1.Bd4 the game continued 1...Kg6 2.Kf3 Kf5 3.Ke2 Ke4 4.Bxg7, winning the knight on d1 and the kingside pawns.

We can't leave the Bishop feeling completely dominated by the Knight! Two common themes you'll notice about positions where the Knight is a stronger piece than the Bishop are that

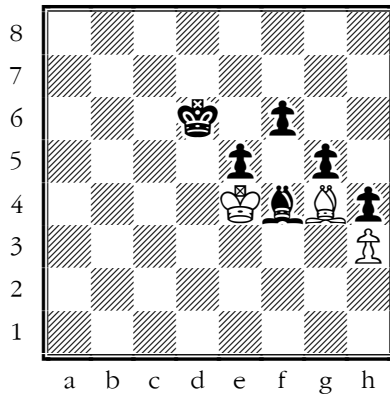
- 1) the positions are relatively closed (meaning not many open diagonals)
- 2) There tend to be lots of Pawns on the same color as the Bishop, blocking its path. Neither of those features is present here.

White played 1.Bd4!, effectively trapping the Black Knight on d1 and taking away the b2- and c3-squares. The Bishop shows its open-board power over the Knight, completely crushing any dreams for the pony! Note that White did not play 1.Bb6 attacking the a5-Pawn, as Black could play 1...Nc3 or 1...Nb2 and win the a4-Pawn right back.

Essential Question, Level V: Synthesis

In addition to the board being open, which naturally favored the Bishop, what inferences can you make about the position of the Knight on d1 and how it contributed to the Knight getting trapped?

Bad Bishop, example 3: the empty Bishop serves no purpose...



Opposite-colored Bishop endings are common, and an important study.

Sometimes a Bishop has a ton of space and options for movement, yet no real goal or purpose. In this *opposite colored* (a term used to describe endings where there are two Bishops of opposite square color—in this case, White's light-squared Bishop versus Black's dark-squared Bishop) Bishop ending, Black's f4-Bishop can do nothing to break White's blockade of the Pawns on the light-squares.

Despite Black's three-Pawn advantage, this Endgame is a forced draw. White will shuffle the Bishop along the h3-c8 diagonal forever. Black can place both the King and Bishop on any square, but it makes no difference. Black's Bishop is empty, because it can't challenge its White counterpart.

Essential Question, Level V: Synthesis

Can you elaborate on the reason why these Bishops are considered empty?

Lesson 19 Summary and Linking Content to Standards

In Lesson 19, students learned how to assess and improve the value of their pieces throughout a game. They focused on the idea that, while pieces all have a nominal value no matter what the position, they also have varying values depending on the specifics of the position at hand. Increasing the absolute value of pieces in any given position requires full board awareness of where the pieces will be at their best, and these critical skills align with Common Core State Standards like Geometry and Speaking and Listening, where students use their knowledge of angles, lines, shapes, and coordinates to solve chess problems critically. The Essential Questions improve their ability to collaborate, interact with peers and adults, and demonstrate their knowledge with words and topic-specific language/vocabulary.

Students focused on how to maximize the value of their pieces by using them in active, cohesive ways. Pieces that create threats and control the board, especially the center, have much higher value than pieces that are simply just on the board. Additionally, students learned how to identify “bad” pieces, such as Knights and Bishops that are not contributing in a meaningful way to the position.

Students are now able to recognize and eliminate these pieces from their positions, while being aware of how to create and take advantage of similarly weak pieces in the opponent’s camp. Students are working towards a mastery of advanced piece play and techniques in this lesson. Utilizing pieces to their fullest potential is a significant skill set that ties directly to the critical thinking required in district-mandated assessments like Partnership for Assessment of Readiness for College and Career Readiness.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Mathematics: G.A.1 and 2 K-5: Geometry

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5

Classroom Activities

Activity 1: Call out the bad

Activity goal:	Recognizing good and bad pieces, reinforcing ideas about how to assess a piece's absolute value versus its nominal value. (Parts 1 - 2)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair students.
- Students should play a normal chess game. Every time a student notices an example of his or her opponent's bad piece (i.e., a Knight on the rim, or a Bishop that is more like a big Pawn), the student should raise her or his hand and point it out to the Coach/Teacher.
- Coach/Teacher can also walk around and ask students to assess the value of their pieces at any given moment throughout the game.

Note that these games should be treated as practice, designed for the students to help each other recognize and avoid bad pieces. Teachers should be wary to avoid conflicts and hurt feelings between students, where one side is pointing out many more bad pieces in the opponent's camp than in his or her own. To avoid this, pair students against equally matched opponents for more even games.

Activity 2: Dream versus nightmare

Activity goal: Recognizing good and bad pieces, reinforcing ideas about how to assess a piece's absolute value versus its nominal value. (Parts 1 – 2)

Geometry: CCSS.Math.Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair students.
- White should begin the game normally.
- After White makes his or her first move, Black is forced to develop one of her or his Knights (either to c6 or f6).
- Next, White will make his or her desired move. On move two, Black is forced to move the Knight she or he developed again (this is required for the game to work). White will then make the next move of his or her choice, and Black will be forced to move that same Knight again.
- Continue this pattern for a total of seven moves. On each turn, White can make whatever move he or she wants, and Black is forced to move only the Knight that she or he developed back on the first move of the game.
- If Black loses that Knight, then he or she will be forced to skip moves and let White make whatever moves he or she desires until the completion of move seven. After move seven, Black will then be allowed to make whatever moves she or he desires.
- After the game is completed, have students switch colors and play the same way.

Coach/Teacher should emphasize the importance of good pieces, and using all your forces together to control the board. With Black taking this approach, it should not be hard for White to create a dream position, while Black is underdeveloped and forced to use bad pieces.

After move seven, Black will have a chance to fight back and improve the value of his or her pieces by incorporating them into the game, which, if the game is not over, is a good exercise in fighting back from a bad position. This unfair start to a game will leave your students hungry to develop all of their pieces to avoid getting so far behind in the future.

LESSON 20

Lesson 20: Playing Tournament-Level Chess



Overview

Lesson 20 focuses on the ultimate goal all chess players have: successful tournament play. By now, students have mastered many of the fundamentals of chess, and they are ready to put those skills to the test in a competitive environment. This lesson highlights some of the key critical thinking tools students can use as weapons in developing their own plans and limiting the plans their opponent may have throughout the course of a game.

Part 1 emphasizes that chess is less about memorization and more about understanding. Using the skills a player has developed on strategic and tactical levels should help guide them through positions they may not otherwise be sure how to handle. There are examples of how to organize your thoughts and formulate a plan at any stage of the game—the Opening, the Middlegame, and the Endgame. Part 2 highlights the concept of prophylactic thinking, when a student must play to thwart a serious threat an opponent may have in the immediate or near future. Students are shown several examples of famous players using prophylactic thinking in their own games. Part 3 shifts the focus to three ways a chess game can end in a draw, all of which are useful to tournament players: perpetual check, three-fold repetition, and the 50-move draw rule. Knowing these ways to claim a draw can help a student when a position looks dire, and can turn what might otherwise be a loss into a split point.

The Classroom Activities help students feel confident to enter a competitive tournament setting. While not all students will play tournament chess, the skills learned in this lesson will prepare any student before entering any competitive event. The advanced critical thinking skills, along with the prophylactic training, align with Common Core State Standards (K-5) expectations of Geometry: angles, lines, shapes and coordinates, and ELA-Literacy: Speaking and Listening.

Teacher's Guide

The key points of Lesson 20 are clearly practical, and in many ways, the beginning of chess psychology. Players can learn the X's and O's of basic strategy and tactics from self-taught methods (books, curricula such as this one, etc.), but without guidance or some form of psychological advice, they never truly develop the ability to apply their knowledge in games.

Our main goal in this lesson is to provide something that many books about chess do not: a user's guide to critical thinking skills in chess. Many of the concepts recommended in regards to a player's thought process could have been expanded upon in much greater detail. However, in keeping it relatively simple, we hope that beginning chess players will have a chance at immediately using the basics of critical thinking described in this lesson in their games.

Prophylactic thinking is much easier said than done. We did not provide Practice Pages on this subject, as we intend for a Teacher/Coach to use the positions given in Part 2 in an open classroom question-and-answer format, discussing prophylactic thinking strategies in a practical setting. The basics of “why did my opponent go there” were already discussed in Lesson 6, so going any deeper into prophylactic exercises would prove too abstract for children to follow at this level.

Practical Notes and Advice—Lesson 20

- When teaching the practical advice offered in Lesson 20, try to refer back to an earlier lesson that touched on each subject in more detail. Example: “In Lesson 6, we learned Openings, right, everyone? So this is what our thought process might be during the Opening while we try to follow the basic rules of development.” In this way, the abstract concepts of thinking are applied concretely to what students have already learned.
- Review the rules of Part 3 and make sure you fully understand the technicalities of each draw claim a player might make during a game before explaining them to your students. Otherwise, an inaccurate first impression of the rule might be a lasting one for certain students.

Lesson 20

Part 1: Finding High-Level Plans and Critical Thinking in Chess

Key Concepts

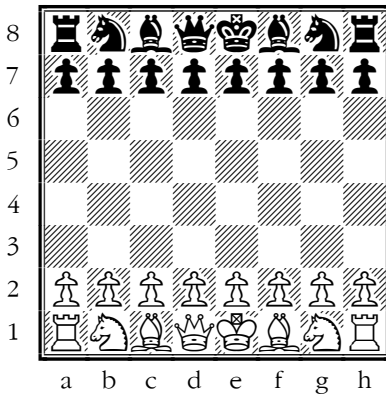
- How to “put it all together” in chess.
- Critical thinking skills and advanced planning.

Everything you have learned in this curriculum, from the basics of the game, how the pieces move, the fundamental principles of development and Opening strategy, to tactics, basic and advanced Pawn play, and Endgame technique, has prepared you for this final lesson. You are almost an experienced scholastic chess player ready to take on the world of tournament chess, and succeed!

But how does it all come together? Learning to apply what you know is often much more important than knowing everything (if that were even possible). Possessing the ability or thinking tools to figure out something you don't know or a position you have never seen is far more important than your ability to memorize what you are taught.

Let's talk about planning and critical thinking skills. How can you transition from just knowing things to actually applying what you've learned in your own chess games? It isn't always easy, but let's try to simplify a few important concepts.

Critical thinking, organizing your thoughts, and finding a plan: the Opening.



Follow the steps to Opening success. Use this section as practical advice on how to apply all the X's and O's you have learned so far.

You know there are many things, perhaps too many, to think about even before your first move. Below is our list of steps to success for putting together what you know about the Opening stage of a chess game:

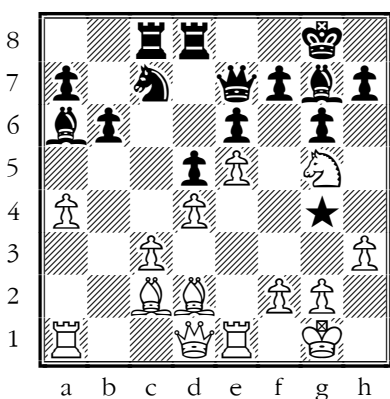
Don't just develop pieces—develop plans! Here's how:

- 1) Start out by always attacking the center.
- 2) As the Pawn structure changes, different paths (diagonals, squares and files) will become available to your pieces. Be willing to change, relocate, and adjust when needed.
- 3) As the structure becomes clear, develop a plan first, and then develop your pieces accordingly. Don't ever make moves thinking, "I'll figure out my plan after I get castled."
- 4) Think about your plan from the beginning.

Essential Question, Level V: Synthesis

What plans can be chosen, and what steps can be taken, to minimize your chances for losing right out of the Opening?

Critical thinking, organizing your thoughts, and finding a plan: the Middlegame.



In this complicated Middlegame, White developed a plan of 20.Qg4 followed by h4-h5 for a Kingside attack. Black couldn't stop this idea, because the Pawn structure supports White's Kingside attack.

The Middlegame is the ultimate battlefield, where you and your opponent's armies collide, often in heaps of forks, pins, skewers, and other tactics. Knowing how to find and target positional weaknesses is essential.

Play No Hope chess. Always play what's best for you, and expect the best move from your opponent. "Hope chess" is when you are playing for tactics or tricks based on your opponent missing your threat or not playing the best move.

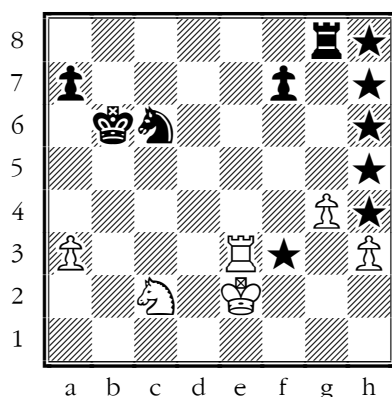
Remember the advice you've been given throughout this curriculum.

- Attack in the direction of your Pawns, or in the center, if it is open.
- Look for big three opportunities:
 - Can you check?
 - Can you capture?
 - Can you attack the Queen?
- Find and target positional weaknesses first and foremost, as they are the enduring features in the game.
- Your opponent might find the best moves, but if you are attacking something that is positional and can't be undone, his or her best moves may not be able to stop you!

Essential Question, Level V: Synthesis

Can you elaborate further on the critical thinking concepts required and applied when developing a plan that your opponent cannot stop?

Critical thinking, organizing your thoughts, and finding a plan: the Endgame.



In this game, White played 1.Kf3!, protecting the g4-Pawn so that he might advance the passed h-Pawn. By recognizing that advantage, White was able to achieve a winning position because of the outside passed h-Pawn.

If an Endgame is reached where one side has a significant material advantage, we will leave those games up to technique, because those positions should be winnable by keeping it simple (Lesson 16). Here we are going to talk more about the critical thinking process during a roughly equal Endgame:

- Fewer pieces means less room for mistakes, so never take an Endgame lightly.
- Unfortunately, many players play Endgames as if the opposite is true: when there are fewer pieces, they move quickly and spend little effort. Don't do that!
- The correct approach to an Endgame is to think of it as allowing less room for error, and make every decision like it could be your last.
- Take a moment to see what positional weaknesses have carried over from the Middlegame. Target the opponent's weaknesses and defend your own.
- Do you have any passed Pawns? If yes, develop a plan of advancement. Do you have any pretending passed Pawns? If yes, develop a plan to trade.
- Prevent your opponent from doing the same.

Essential Question, Level V: Synthesis

Can you invent some questions you could ask yourself in a crucial Endgame position that would help you make the fewest errors possible?

Part 2: Prophylactic Thinking in Chess

Key Concepts

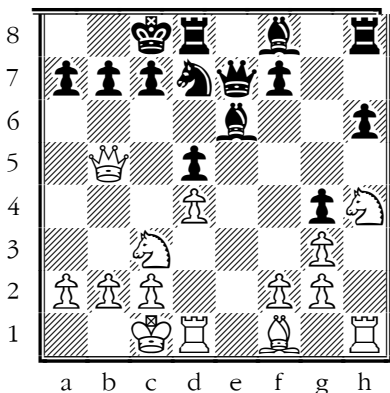
- What is prophylactic thinking?
- Advanced critical thinking: stopping your opponent's threats.

The bad news? Every checkmate attack and tactic you try to come up with for yourself, every plan based on targeting a positional weakness, and every single thing we covered in Part 1 that should be your thought process *is also going to factor into your opponent's plan*. Wait a second: everything we learned will be something we also must consider our opponent might try to do? That's right! So what do we do?

Welcome to chess, the most difficult game in the world! That's what it's all about: Learning as much as you can—which you are doing by reading this curriculum—and realizing that stopping your opponent from doing the same, while carrying out your own plans, is what makes chess so hard.

As in many of the last few lessons, we're going to give the short and simple version of very deep and advanced chess concepts, so don't get frustrated if it is a lot to take in. Instead, focus again on the fact that incorporating these general concepts and critical thinking skills into your games is better done sooner rather than later.

The definition of prophylactic thinking in chess.



No, Marshall did not miss it. If 2.Nxd5 Bxd5 3.Qxd5 Qg5+! 4.Qxg5 hxg5, the h4-Knight is pinned!

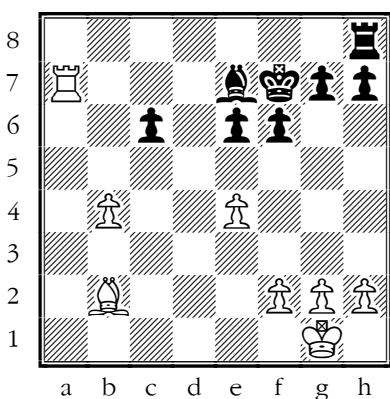
Prophylaxis, or prophylactic thinking, is the act of focusing not only on stopping your opponent's immediate threats or tactics, but on preventing their overall plans and goals from becoming reality. It is defined loosely as "future defensive-mindedness" or "thinking defensively about the future."

As you improve, recognizing and stopping your opponent's immediate threats isn't too hard. Yet even for the best players in the world, prophylactic thinking is a skill to be constantly improved. It takes a lot of discipline to think about your opponent first and put your own plans second. It doesn't sound fun, does it? But it is ultimately the road to chess success. In this game, Frank Marshall just played 1...0-0-0 as Black against World Champion Emanuel Lasker. Did Marshall miss 2.Nxd5? Think about your weaknesses!

Essential Question, Level V: Synthesis

Prophylactic thinking in chess is about the proper anticipation and prevention of your opponent's ideas, plans, and threats. Can you imagine a real-life comparison to emphasize the importance of thinking of others around you, what their goals and plans might be, and how those goals and plans can affect you in a negative or positive way?

Prophylactic thinking, example 2: Lautier, J. – Kasparov, G. Tilburg 1997 1/2.



*Even if you don't see how
your opponent can
expose your weaknesses,
always be aware of them.*

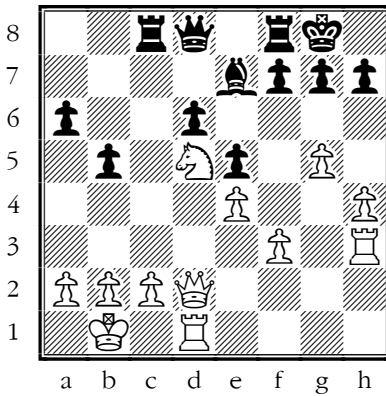
In this famous game, the first grandmaster failed to apply prophylactic thinking when he played 20.Rc7?, and the second grandmaster (reigning world champion at the time) failed to punish him. This example, like the previous one, tells us to be aware of our potential weaknesses constantly, even if we don't see an immediate way for them to be attacked.

The potential weakness we refer to for White is the back rank. After 1.Rc7, a draw was agreed, as both sides simply assumed the c-Pawn would be traded for the b-Pawn. However, 20...c5!! would have won the game for Black! If White plays 21.bxc5 then 21...Rb8, and suddenly White is losing either the b2-Bishop or getting back rank checkmated. If White does nothing after 20...c5, Black will win the b-Pawn. Even the best players in the world forget to consider all of their opponent's options.

Essential Question, Level V: Synthesis

Suppose you were in this position and were offered a draw. What could you do before accepting the draw? Think about prophylactic thinking!

Prophylactic thinking, example 3: Fischer, R. – Bolbochan, J. Stockholm 1962 1-0.



In this game, the great American champion, Bobby Fischer, has just established his Knight on the strong outpost at d5. He now has the option to keep the Knight on this post and try to develop an attack (likely on the Kingside), or consider trading the Knight for the Bishop on e7, for the chance of winning the d6-Pawn.

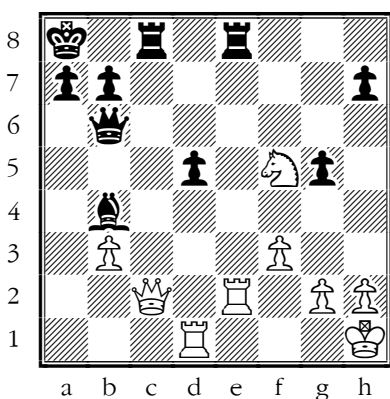
Prophylaxis?

1.Nxe7+ would be a terrible move, not only because it gives up the Knight for that big Pawn on e7, but also because after 1...Qxe7 2.Qxd6 would lose immediately to 2...Rfd8!!, either winning White's Queen or delivering back rank checkmate after 3.Qxe7 Rxd1#. Did you recognize White's potential weakness as the back rank mate here?

Essential Question, Level IV: Analysis

What is the function of White's Rook on d1 as it relates to protecting White's biggest potential weakness on the board—the back rank?

Prophylactic thinking, example 4: Teschner, R. – Portisch, L. Monaco 1969 1/2.



One final example of lack of prophylaxis.

In our final example, it is White to play. Teschner was down a Pawn and so played the move 29.Rxd5?? He clearly was not thinking prophylactically about his weaknesses, or at least not enough. Fortunately for him, however, the great Portisch didn't notice White's weakness either.

Portisch responded with 29...Qa6?, completely missing 29...Qf2!!, threatening 30...Qf1 checkmate and winning the game on the spot. 29...Qa6 was met by 30.Ng3, which defended everything. White went onto draw the game despite making that horrific blunder on move 29. Note if after 29...Qf2 Black plays 30.Rxf2 then 30...Re1+ and mate.

Essential Question, Level V: Synthesis

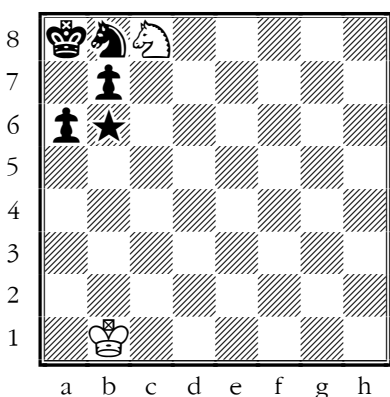
How would you change your own lack of prophylaxis in your chess games to create a different outcome (a win instead of a draw, a draw instead of a loss, etc.) with a more organized thought process?

Part 3: Perpetual Check, Three-Fold Repetition, and the 50-Move Draw

Key Concepts

- What is perpetual check?
- What is three-fold repetition?
- The 50-move draw rule.

Perpetual check: the never-ending-ongoing-eternity of checks.



1.Nb6+ Ka7 2.Nc8+ Ka8
3.Nb6+ etc. White draws
by perpetual check.

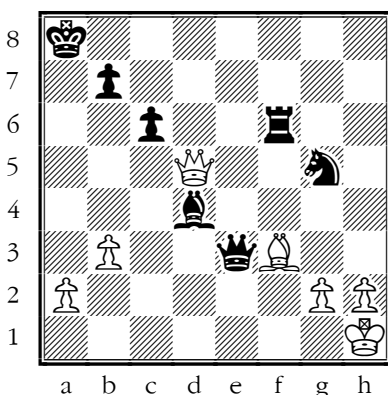
A perpetual check occurs when one side can force a draw by a never-ending series of checks. These checks must be unavoidable for it to be considered truly perpetual. Often, a perpetual check is used as a bail out when one player is worse, perhaps even losing, without the perpetual.

Here, White is worse, and needs to use the perpetual check (see the moves listed beneath the diagram) in order to save the game. White would have decent drawing chances without it, but best play would surely lead to Black capitalizing on the two-Pawn advantage and winning the game.

Essential Question, Level I: Knowledge

Why might it make sense to bail out in a position with a draw, rather than play on in an otherwise worse or losing position? Can you explain this to one of your classmates?

Perpetual check can save your bad position.



White's attack came up short, and so White must take the perpetual check in order to hold a draw.

Our second example shows a position where, unlike the first, White would have no chance of saving the game without a possible perpetual check against the open Black King. A situation like this might occur when one player has sacrificed some material for an attack, but when the attack comes up short, that player must look for a way to bail out with a perpetual check.

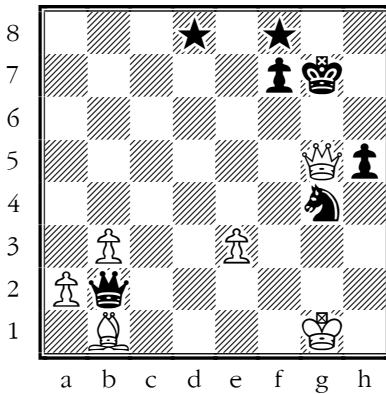
White has to be careful here with which check to give first, 1.Qd8+ or 1.Qa5+. Which do you think? 1.Qd8!+ is necessary. After 1...Ka7 White achieves perpetual with 2.Qa5+ Kb8 3.Qd8+ Ka7 4.Qa5+ Kb8 5.Qd8+, etc. 1.Qa5+ first would lose, as it allows Black's Bishop to block on a7. After 1...Ba7 2.Qd8+ Bb8 3.Qa5+ and 3...Qa7!, winning.

Essential Question, Level I: Knowledge

Assume that White made the mistake of playing 1.Qa5+ first. After the move 3...Qa7 stops the perpetual, how should Black easily win the position? Can you explain a clear step-by-step plan for Black to win?

Our final lessons involve two very important rules that every chess player, scholastic or adult, needs to know. Other than a draw reached by perpetual check, a draw reached by mutual agreement—meaning one player offers a draw and the other accepts—or the classic King versus King draw, there are two other ways a chess game can arrive at a draw, both of them applied in international tournament play.

Three-fold repetition, also known as repetition of position.



Note that three-fold repetition does not necessarily have to be reached by checks (not the same as perpetual), though this game was agreed to a draw by checks because neither player wanted to risk losing.

Because this rule can be slightly confusing, we will first quote the exact language from the FIDE (International Chess Federation) handbook:

“The game is drawn, upon a correct claim by the player having the move, when the same position, for at least the third time (not necessarily by sequential repetition of moves):

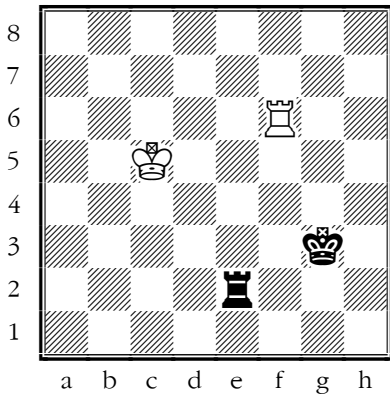
- a. is about to appear, if he/she first writes his/her move on his/her scoresheet and declares his/her intention to make this move that repeats the position, or*
- b. has just appeared, and the player claiming the draw has the move.”*

What this means is that when a position has occurred three times in the game, either player can claim a draw on their move. It must be the exact position, however, not a single Pawn changed! But it doesn't have to be repeated in three consecutive moves, which is what many players incorrectly believe.

Essential Question, Level I: Knowledge

Explain the difference between Repetition of Position and Perpetual Check.

The 50-move draw rule: the enforced draw due to lack of progress.



One example of a dead drawn ending would be Rook versus Rook. The 50-move rule prevents this game from going on forever!

The 50-move draw rule was put in place to prevent players from playing forever in drawn positions. Basically, the rule prevents one side from trying to win solely on time, or by causing his or her opponent fatigue (make them tired). The rule states that a draw can be claimed by either player if fifty moves have been made (by each player) with no captures or Pawn moves on either side.

Making a capture and/or moving a Pawn are two things that suggest progress in chess, so if too many moves go by without either, the game is deemed, or can be claimed, a draw. Fifty moves are considered more than enough time to checkmate the opponent in any of the basic checkmate patterns (Lesson 4, for example). This is another reason why it is important to learn and memorize the basic checkmate patterns!

Essential Question, Level I: Knowledge

How is the 50-move draw rule applied advantageously for chess players?

Lesson 20 Summary and Linking Content to Standards

In Lesson 20, students learned how to put all the skills that they have learned to the test. They focused on how to organize their thoughts and ideas into coherent, well-thought-out plans, while also being aware of the threats their opponents may be trying to execute. Strong critical thinking skills and the ability to discuss one's thinking and ideas with others aligns with the Common Core State Standards: ELA-Literacy: Speaking and Listening. This lesson enhances students' collaboration and communication skills while applying Geometrical skills they have continued to learn and express over the chess board.

The lesson prepared students for competitive tournament situations by showing students how to think and organize strategic plans under pressure. Additionally, they learned how to effectively predict an opponent's threats and stop them by using prophylactic thinking before those threats even happen. Students also learned some important ways in which a game can end in a draw. These three concepts are perpetual check, three-fold repetition, and the 50-move draw rule, all of which can save a student in a position that may seem hopeless and actually force the game to end in a draw and a split point.

Students are now ready for competitive tournament play. These advanced critical thinking skills aid students in utilizing all of the fundamental skills and ideas they have learned in this entire curriculum, as well as aid them in developing the skill of elaborating on their thinking and discussing their ideas collaboratively with others. These skills connect to district-mandated district assessments like Partnership for Assessment of Readiness for College and Careers (PARCC), where students demonstrate the ability to take information provided and express ideas with others through collaboration. Elaborating on the information provided enables the student to demonstrate knowledge through constructed responses on paper through writing, illustrations, and explanation.

Vertical Alignment: Common Core State Standards K-5

Speaking and Listening: ELA-Literacy. SL K-5 Comprehension and Collaboration

Writing: ELA-Literacy-Writing K-5: Write and Express Ideas

Mathematics: G.A.1 and 2 K-5: Geometry

Mathematics: Know Number Names and Count Sequence

Reading: Reading Informational Text: RI: K-5

Phonics and Recognition: ELA-Literacy.RF.1.3 and 2.3 (1-2)

Literacy: Vocabulary Acquisition and Use: ELA-Literacy.L.2.4 and 2.6 (2-5)

How to teach students to think critically about chess	Common Core Standards connection
Discussion, collaboration and sharing ideas	SL: K-5
Finding patterns in a chess game	G.A.1 and 2 K-5
Knowing how to count sequentially and within 20	CC.OA.A.1 and 2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Writing with expression	ELA-Literacy.W. (K-5)
Opinion and argument about positions in a game	RI: 1-3
Discussion about informational text	RI: 4-5
Vocabulary development	L.2.4 and 2.6 (2-5)
Develop foundational reading skills in decoding and recognition of new words	ELA-Literacy.RF.1.3 and 2.3 (1-2)

Classroom Activities

Activity 1: Find three, pick one

Activity goal:	Recognizing a variety of potential moves in a position, reinforcing critical thinking skills that will help a player develop as a successful tournament player. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair students.
- Provide students with paper and pencils.
- Before students make a move, they must write down at least three candidate moves for the position. Once they select which move they will ultimately make, they should circle it on the paper.
- Students should play an entire game this way.
- After students complete the game, Coach/Teacher can review the game quickly with them and talk students through their thinking process during critical moments in the game: why they selected a particular move, etc.

Coach/Teacher can also spend an entire class to go through each game played with the entire group of students on the demo board, so students can hear how their peers think, and these complicated concepts can sink in.

Bonus

Repeat the activity, but this time, have the students write down the three moves they think their opponent will play on the next move, pushing students to think outside themselves and instill the basics of prophylactic thinking.

Activity 2: I think you played there because...

Activity goal:	Recognizing a variety of potential moves in a position, reinforcing critical thinking skills that will help a player develop as a successful tournament player, encouraging players to use prophylactic thinking and be aware of opponent's threats. (Parts 1 - 3)
Comprehension and collaboration:	Speaking and Listening: CCSS.ELA-Literacy.SL. 1.A, 1.B (K-5), 1.C., 1.D., (2-5) (See Appendix)
Geometry:	CCSS.Math.Content. G.A.1 (K-5)

Instructions

- Set up full chess boards and sets and pair students.
- Have students begin to play a normal chess game.
- Every time a student moves, she or he says out loud to his or her opponent after the move, "I think you played there because..." and completes her or his reasoning for the opponent's move (i.e., to develop a piece, to attack my Queen, to put me in check, etc.).
- Opponent either agrees or disagrees with his partner's guess. If the partner is wrong, he or she can provide a small hint as to why she or he played the move.

Coach/Teacher can walk around the room during this exercise and listen to the ideas students have about their opponents' plans, offer suggestions to any struggling students, and reward students who are actively thinking about the moves their partners play.

Curriculum Summary



Congratulations!

You are now ready for the world of competitive scholastic chess tournaments, and you are a graduate of the ChessKid.com curriculum.

If you worked your way through our curriculum, solved every Practice Page, engaged in all the Classroom Activities, and took your time assessing and answering even the toughest Essential Questions, you should feel quite accomplished. We hope to have fulfilled our promise to take you from a beginner to an experienced scholastic player's understanding of the game (estimated at 1300-1600 by the United States Chess Federation's rating system).

For schools and classroom teachers looking to align with general education standards, we have included a full appendix at the end of this curriculum, referencing all applicable Common Core State Standards and where they were utilized in the Essential Questions.

Our Pacing Guide is meant to offer both options for full classroom integration taught on a "chess day" for an estimated five hours. We have also included a layout for after (or before) school enrichment programs (chess clubs), teaching our material for one hour each day of the school week.

Of course, even for regular chess coaches or home-school groups, the Essential Questions are a valuable addition, challenging students to think critically after each concept and diagram.

It was our goal to open the door to many different chess concepts for teachers, coaches, and students of all levels and backgrounds. We hope to have achieved this goal, helping you lay the groundwork for strong, successful chess careers!

Sincerely,

IM Daniel Rensch
Vice President, Chess.com LLC and ChessKid.com
(Username: PoppaBear on www.ChessKid.com)

Thanks to you, dear reader, on behalf of the entire Chess.com and ChessKid.com staff, and all those who contributed to this project.



Full-review Pacing Guide



Full-review Pacing Guide Introduction

With this pacing guide, we offer a suggested format for either a 21-week chess club day or “five hours per lesson” program.

Here we allow for the maximum amount of time we would ever anticipate being necessary for each lesson, including extra time for practice and discussion.

The Full Review program takes the most time needed to cover each section, and is for education systems that possess this kind of flexibility (from private and charter schools to homeschool environments).

The below pacing guide can be applied in the format of a full day of chess, keeping exactly to our recommended breaks, or can be applied to a system of one hour a day, Monday through Friday, ignoring our recommendations for breaks but making sure all five hours are applied per lesson.

This is not to say that a public school couldn’t apply the same formula, working around lunch, recess, and break periods while offering the same amount of extra time for practical play. However, we anticipate that the slightly more accelerated pacing guide (see Pacing Guide: Accelerated Review System) might be more applicable to the public school environment, for use in either classroom or extracurricular programs.

Pacing Guide: Full Review System

- *Each lesson is designed to take five to six hours, in one session or over a week.*
- *We recommend using break and lunch times for whole-group discussion.*
- *Though the CCSS standards noted are specific to the lesson and its activities, refer to Appendix for full range of scope and sequence of standards per grade level to modify, adjust, or build on curriculum for your classroom.*

Week	Unit	Schedule	CCSS addressed
1	Introduction	<ul style="list-style-type: none"> ▪ Part 1: Introducing Chess: a Brief History and the Chessboard. (60 min.) ▪ Part 2: Setting up a Chessboard and the Value of Every Chess Piece (60 min.) ▪ Recess (15 min.) ▪ Over-the-Board Practice: (45 min.) ▪ Lunch (30 min.) ▪ Activities & Practice Pages (90 min.) ▪ Discussion/More Over-the-Board Practice (45 min.) ▪ Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, A.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
2	Lesson 1	<ul style="list-style-type: none"> Part 1: Introducing the Rook, Bishop, and Queen (60 min.) Part 2: Introducing the King, Knight, and Pawns (60 min.) Recess (15 min.) Over-the-Board Practice: (45 min.) Lunch (30 min) Activities & Practice Pages 90 min Discussion and More Over-the-Board Practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
3	Lesson 2	<ul style="list-style-type: none"> Part 1: Check and How to Escape Check (60 min.) Part 2: Checkmate and Introduction to Stalemate (60 min.) Recess (15 min.) Over-the-Board Practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board Practice (45 min.) Clean Up 	G.A.1&2 K-5; SL: K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2), ELA-Literacy.W. (K-5) ,RI: 1-5
Notes:			

Week	Unit	Schedule	CCSS addressed
4	Lesson 3	<ul style="list-style-type: none"> Part 1: Basic Checkmates—King and Queen versus Lone King (60 min.) Part 2: Basic Checkmates—“Rook Roller:” Two Rooks versus Lone King (60 min.) Recess (15 min.) Part 3: Stalemate (No Legal Moves) Explained (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board Practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
5	Lesson 4	<ul style="list-style-type: none"> Part 1: Capturing 'Free' and Undefined Pieces (60 min.) Part 2: Counting Attackers and Defenders (60 min.) Recess (15 min.) Over-the-Board Practice: (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board Practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
6	Lesson 5	<ul style="list-style-type: none"> Part 1: Learning to Castle (60 min.) Part 2: Capturing Pawns “in Passing” — En Passant (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
7	Lesson 6	<ul style="list-style-type: none"> Part 1: The Three Phases of a Chess Game (60 min.) Part 2: Learning the Basics of “Planning” in Chess (60 min.) Recess (15 min.) Part 3: Why Did My Opponent Move There? (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
8	Lesson 7	<ul style="list-style-type: none"> Part 1: Quick Mates in Four Moves or Less (60 min.) Part 2: Basic Checkmate Ideas and Patterns (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
9	Lesson 8	<ul style="list-style-type: none"> Part 1: The Basics of Development and Queen Play in the Opening (60 min.) Part 2: Advanced Development: Controlling the Center; Connecting the Rooks; and Playing with Purpose (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
10	Lesson 9	<ul style="list-style-type: none"> Part 1: Essential Tactics: Double Attack and the Fork (120 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
11	Lesson 10	<ul style="list-style-type: none"> Part 1: Winning Chess Tactics: Learning to Pin (60 min.) Part 2: Breaking the Pin (60 min.) Recess (15 min.) Part 3: Breaking the Pin (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
12	Lesson 11	<ul style="list-style-type: none"> Part 1: Discovering Discovered Attacks in Chess (60 min.) Part 2: More Discovered Attacks and Double Checks (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5
Notes:			

Week	Unit	Schedule	CCSS addressed
13	Lesson 12	<ul style="list-style-type: none"> Part 1: Removal of the Defender (120 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean Up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
14	Lesson 13	<ul style="list-style-type: none"> Part 1: Basic Checkmates: King and Rook versus. Lone King (60 min.) Part 2: Zugzwang Explained (60 min.) Recess (15 min.) Part 3: King Play, King Power, and King Activity (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; ELA-Literacy.W. (K-5)
Notes:			

Week	Unit	Schedule	CCSS addressed
15	Lesson 14	<ul style="list-style-type: none"> Part 1: Introduction to Passed Pawns and Basic Pawn Play Strategy (60 min.) Part 2: Under-Promotion, Pawn Tactics, and Rule of the Square (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
16	Lesson 15	<ul style="list-style-type: none"> Part 1: Opposition Explained with Basic King and Pawn Endings (60 min.) Part 2: Distant Opposition (60 min.) Recess (15 min.) Part 3: Irregular Opposition (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
17	Lesson 16	<ul style="list-style-type: none"> Part 1: Win When Winning: the Principles of Technique (60 min.) Part 2: The Magic Square Technique: Queen Versus Advanced Pawn(s) (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
18	Lesson 17	<ul style="list-style-type: none"> Part 1: Positional Chess: Doubled Pawns (60 min.) Part 2: Positional Chess: Isolated Pawns (60 min.) Recess (15 min.) Part 3: Positional Chess: Backward Pawns and Outpost Squares (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
19	Lesson 18	<ul style="list-style-type: none"> Part 1: Pawn Majorities and Minorities: The Basics of Pawn Play (60 min.) Part 2: The Basics of Pawn Structure and Advanced Pawn Play (60 min.) Recess (15 min.) Part 3: Advanced Pawn Play, Space, and Building Strength (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
20	Lesson 19	<ul style="list-style-type: none"> Part 1: Cramped/Bad Pieces: Nominal versus Absolute Piece Power (60 min.) Part 2: Sidelined Minor Pieces: Knight on the Rim and Bad Bishop (60 min.) Recess (15 min.) Over-the-Board practice (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
21	Lesson 20	<ul style="list-style-type: none"> Part 1: Finding High-level Plans and Critical Thinking in Chess (60 min.) Part 2: Prophylactic Thinking in Chess (60 min.) Recess (15 min.) Part 3: Perpetual Check, Three-Fold Repetition, and The 50-Move Draw (45 min.) Lunch (30 min.) Activities and Practice Pages (90 min.) Discussion and more Over-the-Board practice (45 min.) Clean up 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Accelerated-review Pacing Guide



Accelerated-review Pacing Guide Introduction

Our accelerated pacing guide provides specific suggestions for the allotted time, varying per lesson. Though we recommend three hours of total chess time for the majority of the lessons, some will take slightly more, and others slightly less. Note that our time breakdowns for each class or day are adjustable at the teacher's discretion (i.e., if a chess club meets for 90 minutes twice a week, both parts 1 and 2 could be covered in the same class).

Given the depth of our curriculum, as well as the vast extent of the material covered, this is our most reasonable suggestion for an accelerated path. We are aware that most in-classroom chess clubs (as well as before/after school programs) may only meet for 90 minutes to 2 hours maximum per week. In these cases, we suggest an experienced chess coach use his or her discretion to evaluate the rate in which the students are learning and demonstrating an understanding of the target concepts in each lesson, and adjust the speed of the material covered appropriately. For less experienced chess coaches, who may not feel comfortable knowing what sections of the content to accelerate, we suggest assigning practice pages and parts of the lessons for homework to ensure that all necessary material and concepts are covered within the given week.

Pacing Guide: Accelerated Review System

- *Each lesson is designed to take three to four hours total.*
- *Though the CCSS standards noted are specific to the lesson and its activities, refer to the Appendix for full range of scope and sequence of standards per grade level to modify, adjust, or build on curriculum for your classroom.*
- *Practices Pages and Practical Discussion, as well as Over-the-Board Practice Games, are scheduled for 90 minutes. Actual time spent for each is up to teacher's discretion, based on student's demonstrated understanding of lesson concepts.*

Week	Unit	Schedule	CCSS addressed
1	Introduction	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Introducing Chess, a Brief History and the Chessboard (45 min.) ▪ Class/Day 2: Part 2: Setting up a Chessboard and the Value of Every Chess Piece (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
2	Lesson 1	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Introducing the Rook, Bishop and Queen (45 min.) ▪ Class/Day 2: Part 2: Meet the Players-King, Knight, and Pawns (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
3	Lesson 2	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Check and How to Escape Check (45 min.) ▪ Day 2: Part 2: Checkmate and Introduction to Stalemate (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	G.A.1&2 K-5; SL: K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2), ELA-Literacy.W. (K-5) ,RI: 1-5
Notes:			

Week	Unit	Schedule	CCSS addressed
4	Lesson 3	<ul style="list-style-type: none"> Class/Day 1: Part 1: Basic Checkmates: King and Queen versus Lone King (45 min.) Class/Day 2: Part 2: Basic Checkmates: "Rook Roller," Two Rooks versus Lone King (45 min.) Class/Day 3: Part 3: Stalemate (No Legal Moves) Explained (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
5	Lesson 4	<ul style="list-style-type: none"> Class/Day 1: Part 1: Capturing 'Free' and Undefended Pieces (45 min.) Class/Day 2: Part 2: Counting Attackers and Defenders (45 min.) Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
6	Lesson 5	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Learning to Castle (45 min.) ▪ Class/Day 2: Part 2: Capturing Pawns “in Passing” is En Passant (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
7	Lesson 6	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: The Three Phases of a Chess Game (45 min.) ▪ Class/Day 2: Part 2: Learning the Basics of “Planning” in Chess (45 min.) ▪ Class/Day 3: Part 3: Why Did My Opponent Move There? (45 min.) ▪ Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
8	Lesson 7	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Quick Mates in Four Moves or Less (45 min.) ▪ Class/Day 2: Part 2: Basic Checkmate Ideas and Patterns (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
9	Lesson 8	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: The Basics of Development and Queen Play in the Opening (45 min.) ▪ Class/Day 2: Part 2: Advanced Development: Controlling the Center; Connecting the Rooks; and Playing with Purpose. (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; RL: K
Notes:			

Week	Unit	Schedule	CCSS addressed
10	Lesson 9	<ul style="list-style-type: none"> Class/Day 1: Part 1: Essential Tactics: Double Attack and the Fork (60 min.) Class/Day 2: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
11	Lesson 10	<ul style="list-style-type: none"> Class/Day 1: Part 1: Winning Chess Tactics: Learning to Pin! (45 min.) Class/Day 2: Part 2: Breaking the Pin! (45 min.) Class/Day 3: Part 3: Breaking the Pin! (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
12	Lesson 11	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Discovering Discovered Attacks in Chess (45 min.) ▪ Class/Day 2: Part 2: More Discovered Attacks and Double Checks (45 min.) ▪ Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5
Notes:			

Week	Unit	Schedule	CCSS addressed
13	Lesson 12	<ul style="list-style-type: none"> ▪ Class/Day 1: Part 1: Removal of the Defender (60 min.) ▪ Class/Day 2: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
14	Lesson 13	<ul style="list-style-type: none"> Class/Day 1: Part 1: Basic Checkmates: King and Rook versus. Lone King (45 min.) Class/Day 2: Part 2: Zugzwang Explained (45 min.) Class/Day 3: Part 3: King Play, King Power and King Activity (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; ELA-Literacy.W. (K-5)
Notes:			

Week	Unit	Schedule	CCSS addressed
15	Lesson 14	<ul style="list-style-type: none"> Class/Day 1: Part 1: Introduction to Passed Pawns and Basic Pawn Play Strategy (45 min.) Class/Day 2: Part 2: Under-Promotion, Pawn Tactics and Rule of the Square (45 min.) Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
16	Lesson 15	<ul style="list-style-type: none"> Class/Day 1: Part 1: Opposition Explained with Basic King and Pawn Endings (45 min.) Class/Day 2: Part 2: Distant Opposition (45 min.) Class/Day 3: Part 3: Irregular Opposition (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
17	Lesson 16	<ul style="list-style-type: none"> Class/Day 1: Part 1: Win When Winning: the Principles of Technique (45 min.) Class/Day 2: Part 2: The Magic Square Technique: Queen Vs. Advanced Pawn(s) (45 min.) Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
18	Lesson 17	<ul style="list-style-type: none"> Class/Day 1: Part 1: Positional Chess: Doubled Pawns (45min.) Class/Day 2: Part 2: Positional Chess: Isolated Pawns (45 min.) Class/Day 3: Part 3: Positional Chess: Backward Pawns and Outpost Squares (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
19	Lesson 18	<ul style="list-style-type: none"> Class/Day 1: Part 1: Pawn Majorities and Minorities: The Basics of Pawn Play (45 min.) Class/Day 2: Part 2: The Basics of Pawn Structure and Advanced Pawn Play (45 min.) Class/Day 3: Part 3: Advanced Pawn Play, Space and Building Strength (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5,OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
20	Lesson 19	<ul style="list-style-type: none"> Class/Day 1: Part 1: Cramped/Bad Pieces: Nominal versus Absolute Piece Power (45 min.) Class/Day 2: Part 2: Sidelined Minor Pieces: Knight on the Rim and Bad Bishop (45 min.) Class/Day 3: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2)
Notes:			

Week	Unit	Schedule	CCSS addressed
21	Lesson 20	<ul style="list-style-type: none"> Class/Day 1: Part 1: Finding High-Level Plans and Critical Thinking in Chess (45 min.) Class/Day 2: Part 2: Prophylactic Thinking in Chess (45 min.) Class/Day 3: Part 3: Perpetual Check, Three-Fold Repetition, and The 50-Move Draw (45 min.) Class/Day 4: Activities, Practices Pages, and Practical Discussion, as well as Over-the-Board Practice Games (90 min.) 	SL: K-5; G.A.1&2 K-5; CC.OA.A.1&2 (K); OA.A.2, OA.C.5, OA.B.2 (1-2); ELA-Literacy.W. (K-5); RI: 1-3; RI: 4-5; L.2.4&2.6 (2-5); ELA-Literacy.RF.1.3 &2.3 (1-2)
Notes:			

Essential Questions

Answer Key



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Introduction: Introducing the Game and Learning the Chessboard

Introduction, Part 1: Introducing the Game and Learning the Chessboard

Essential Question, Level I: Knowledge

Using a chess board, how would you show someone the other longest diagonal on the board: a1-h8?

Answer: Students can place a Pawn, piece, or counter of any kind along each square on the board to show the a1-h8 diagonal. If students place a counter on each long diagonal, you will notice the Pawns form an X, intersecting lines at the center of the board.

Essential Question, Level I: Knowledge

Can you write the algebraic notation for one of the squares that are not starred? Are there any other subjects in schools that teach you to use a “graph” like this chessboard?

Answer: Yes! Mathematics often has students solve a problem by using/reading a graph and coordinates, just as they see in Chess.

Essential Question, Level 1: Knowledge

What are the letter abbreviations for each piece? Using Algebraic Notation, write 10 moves for pieces being moved to random squares (of your choosing) on the board.

Answer: Possible responses can be judged by the teacher as any legal chess moves written in Algebraic Notation. Example answers: Nh5, Re1, Kg3, Nf3, c5, Qe4, Bb6, g8 (Q), Ra2, Bh6, Qd3...

Essential Question, Level 1: Knowledge

Why would you surmise the reason the squares from the e-file to the h-file are referred to as the “Kingside”? And why are the squares from the d-file to the a-file considered the “Queenside”?

Answer: Because the starting position of each King is e1 and e8, while the starting position for each Queen is d1 and d8, those sides of the board are referred to as the King’s side and the Queen’s side, hence Kingside and Queenside.

Introduction, Part 2: Introducing the Game and Learning the Chessboard

Essential Question, Level I: Knowledge

What is the starting square color for each King?

Answer: White and Black. Each King occupies the E-file, so depending on which King you have, it can start on a Black square (White King) or a White square (Black King). An easy way to remember it is the King occupies the square that is *opposite* its own piece color.

Essential Question, Level I: Knowledge

What is the starting square color for each Queen?

Answer: Her own color. Each Queen likes to have shoes that match the square she is on (if you don't like Queen fashion, you can simply say the Queen always occupies the d-file).

Essential Question, Level I: Knowledge

Can you write the Algebraic Notation for each Rook in this diagram?

Answer: Ra8, Rh8, Ra1, Rh1. Remember, Black's pieces always begin on the eighth rank, and White's pieces always begin on the first rank. When students write their notation for White and Black, they should remember that.

Essential Question, Level I: Knowledge

Can you write the Algebraic Notation of each of the Knights?

Answer: Nb8, Ng8, Nb1, Ng1. Remember, Black's pieces always begin on the eighth rank and White's pieces always begin on the first rank. When students write their notation for White and Black, they should remember that.

Essential Question, Level I: Knowledge

Can you write the Algebraic Notation of each Bishop?

Answer: Bc8, Bf8, Bc1, Bf1. Remember, Black's pieces always begin on the eighth rank and White's pieces always begin on the first rank. When students write their notation for White and Black, they should remember that.

Essential Question, Level I: Knowledge

Can you state which rank the White Pawns begin on, and which rank the Black Pawns begin on, using Algebraic Notation?

Answer: Black Pawns begin on the seventh rank, while the White Pawns begin on the second rank.



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Essential Question, Level I: Knowledge

Can you recall the setup of the board if it was wiped clean? Show your teacher that you can do this!

Answer: Observe students set up the board from no pieces on the board. Assess how well they demonstrate their knowledge and understanding of proper chessboard set up.

Lesson 1: Meet the Players

Lesson 1, Part 1: Introducing the Rook, Bishop, and Queen

Essential Question, Level I: Knowledge

Can you select all of the squares where a centrally located Rook can move? (This is to assess whether they understand how the Rook moves.)

Answer: The a4 to h4 horizontal rank and the e1 to e8 vertical file. (Have students write the Algebraic notation for each of those squares.)

Essential Question, Level I: Knowledge

What type of line does a Bishop move in on the board?

Answer: Diagonal.

Essential Question, Level I: Knowledge

How would you describe the Queen and how it moves to a newcomer in chess?

Answer: Responses will vary, but should include descriptions and understanding of how the Queen can move in all directions and cover all squares except for the Knight pattern. Responses may specify that the Queen cannot jump over pieces.

Lesson 1, Part 2: Introducing the King, Knight, and Pawn

Essential Question, Level 1: Knowledge

How is the King's mobility different from the Queen's?

Answer: The King can only move to squares right next to him. He has no long-range attacking potential, and the d5-square is under attack by the Black Bishop on g8, so moving the White King there would not be allowed, as it places the King in check.

Essential Question, Level I: Knowledge

Can you list three rules you've learned about the Knight so far?

Answer: Responses will vary, but should include basic understanding of how the Knight moves, etc. Possible answers:

1. The Knight is the only piece that can jump over pieces, except when the King and Rook are castling.



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2. Knights should aim to occupy the center of the board to utilize as many of its attacking squares as possible.
3. Knights capture the piece or Pawn that is on the square it LANDS on, not the piece or Pawn it jumps over.

Essential Question, Level I: Knowledge

How would you show a newcomer to chess how a Pawn captures? (This is to assess if they truly understand the capture rules of the Pawn.)

Answer: Responses will vary, but should include concepts indicating understanding of Pawns capturing diagonally.

Essential Question, Level I: Knowledge

When your Pawn advances to the other side of the board, can you select any piece to promote? (This is a trick question to see if they mention promoting to a King or staying a Pawn.)

Answer: Technically, you can't, because no matter how much we'd like to, we can't promote to another King!

Lesson 2: The Goal of Chess: Check and Checkmate

Lesson 2, Part 1: Check, and How to Escape Check

Essential Question, Level I: Knowledge

Can you list any words that are different in other languages, or may have changed over time through different cultures? If yes, write a short paragraph about this word. If no, describe the origins of the word “check” from this first diagram.

Answer: Responses will vary,

Essential Question, Level I: Knowledge

Using the knowledge you’ve gained about chess so far, how would you explain why it’s important to get your King safe and out of check?

Answer: Responses will vary, but should demonstrate accurate knowledge of King safety.

Essential Question, Level II: Comprehension

Can you state in your own words what is happening in the diagram?

Answer: Responses will vary, but should demonstrate accurate knowledge of the concept being learned.



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Essential Question, Level II: Comprehension

How would summarize the three ways a King can get out of check? And how would you describe the order in which you should properly ‘perform CPR’ in regards to your King’s safety?

Answer: Responses will vary, but should demonstrate accurate knowledge of the concept being learned.

Lesson 2, Part 2: Checkmate and Introduction to Stalemate

Essential Question, Level III: Application

Can you make use of the facts in the diagram to describe the relationship of the White Queen on a4 and the White Rook on a6 in regards to protecting the White King? Are they doing a good job?

Answer: No, they are not doing a good job. The White Queen and Rook are too far away from the King and are blocked by their own Pawns. They cannot do anything to protect the King. However, if it was not Black’s turn and the check could be avoided, White’s Queen has a clear mating attack on e8.

Essential Question, Level III: Application

Where would you place the Black Queen so that White is no longer in checkmate, but is in stalemate?

Answer: Qg3 or Qe3. When Black’s Queen leaves no squares available for White’s King to move, and is not in check either, it is stalemate.

Essential Question, Level III: Application

Where could you place Black’s pieces in the above diagram so that the position would not be stalemate? Organize your ideas in a well-constructed two paragraph response.

Answer: Responses will vary,

Lesson 3: Basic Checkmate and Stalemate Explained

Lesson 3, Part 1: Basic Checkmates: King and Queen versus Lone King

Essential Question, Level IV: Analysis

Knowing how the Knight moves and seeing the d3-square with a star on it, what conclusions might you be able to draw about the “mating pattern” referenced above (i.e., moving the Queen a “Knight’s check away?”)

Answer: Possible responses can be written or discussed with a partner, and include ideas like the Queen cutting off squares from the enemy King, how a Queen moving



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in a Knight's check allows the King to move without stalemate occurring, or the "Knight's check away" position *prevents* the Queen from threatening the King.

Essential Question, Level IV: Analysis

Why might you think White is trying to make the "imaginary box" smaller?

Answer: Because White's goal is to limit the Black King to as few squares as possible, trapping him on the edge of the board so the King and Queen can deliver checkmate.

Essential Question, Level IV: Analysis

Why do you think the King becomes such an important piece in positions like you see in the diagram?

Answer: Because the Queen cannot issue checkmate on her own. The Queen needs the King to protect her so that she is not captured in her attack against the enemy King. (Responses may vary but should contain similar ideas.)

Essential Question, Level V: Synthesis

What might happen if White decided to execute several random checks instead of walking the King up the "winning path?"

Answer: Responses may vary, but should include ideas involving the concept of the ineffectiveness of random checks (i.e., they make no progress in trapping or limiting the enemy King) versus the need for White to utilize the King to protect the Queen so she can deliver checkmate.

Essential Question, Level V: Synthesis

Discuss the importance of teamwork between the White King and Queen in order to make this checkmate possible.

Answer: Responses may vary,

Lesson 3, Part 2: Basic Checkmates: "Rook Roller," Two Rooks versus Lone King

Essential Question, Level V: Synthesis

Suppose you could replace one of the White Rooks with a different White piece. Is it still possible to deliver checkmate without needing the help of the White King? If so, what piece can you replace the Rook with? If no, explain your answer.

Answer: Yes! The Queen and Rook do a fine job of checkmating the enemy King without the help of their own King.

Essential Question, Level V: Synthesis



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Before seeing the rest of the diagrams, can you predict how White's mating pattern is going to work if White makes the best moves? Can you already visualize this idea in your head and explain it?

Answer: Responses will vary,

Essential Question, Level V: Synthesis

How would you test a beginning chess player, maybe a friend or a sibling, to see if they understood this pattern?

Answer: Have them show you over the board. Play this mating pattern against them. (Or other responses.)

Essential Question, Level V: Synthesis

Can you elaborate on the reason why the Rooks have to work together as a team, taking turns, in order for this mating pattern to work?

Answer: Responses will vary, but should be indicative of understanding the concept learned in this section/diagram.

Essential Question, Level V: Synthesis

Can you predict the outcome of a winning position if you only relied on hoping your opponent makes bad moves? What do you think might happen?

Answer: Responses will vary, but the point is for students to learn that they should not rely on "hope chess." This mating pattern works even with the best responses from Black, and that is the right mindset for all students to have. Other responses that highlight this concept in critical thinking should also be considered correct, as we do not want students to think it is effective to "hope" their opponents make a mistake.

Lesson 3, Part 3: Stalemate (No Legal Moves) Explained

Essential Question, Level III: Application

If it were White to move, what approach would you use to "release" the Black King from stalemate?

Answer: The Queen will have to move to a square that is *not* b6 or c7. All other squares release the Black King from stalemate.

Essential Question, Level III: Application

Using what you've learned about the proper pattern for the Queen and King checkmate, what other ways would you solve the problem of the King and Queen "stepping on each other's toes" to avoid this stalemate?

Answer: The pattern we saw with the Queen moving a "Knight's check" away to force the King into the corner, and then the White King only coming in at the end to



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help protect the Queen and deliver checkmate is the process that should be followed. Responses will vary, but explanations should include some version of the Queen leading the way, trapping the Black King first, and then only using the King in the end to help protect the Queen.

Essential Question, Level III: Application

Based on this diagram, what could possibly be the result of a game where you have 'too many' pieces while your opponent only has a King? How would you avoid this kind of stalemate from happening?

Answer: Responses will vary, but should explain stalemate can occur when one side has too many pieces yet didn't checkmate at a more appropriate time. This problem can be avoided by students looking to use their pieces effectively and checkmate the King at an earlier stage of the game.

Essential Question, Level III: Application

Can you make use of the facts that cause stalemate to prevent yourself from stalemating your opponent in a winning position in your own games? Explain why or why not.

Answer: Students should be able to make use of what they know about stalemate to avoid stalemate situations in winning positions. Responses will vary in explanation of why or why not, but should include components of how it is possible to avoid stalemate in winning positions.

Essential Question, Level III: Application

How would you organize pieces on the board to show a true stalemate and not a misunderstood stalemate?

Answer: Positions may vary, but should point to arranging the pieces into a 'real' stalemate pattern—which should include a situation where not only does the King have no legal moves, but he is not in check, and there are no other pieces with legal moves either on the stalemated King's side.

Lesson 4: How to Win Points (Material) in Chess

Lesson 4, Part 1: Capturing 'Free' and Undefended Pieces

Essential Question, Level III: Application

What questions would you ask yourself before capturing a piece?

Answer: Responses may vary, but should include critical lines of thinking such as, Am I trading equal material if I capture? Are the pieces I'm capturing really for free? Is my piece pinned, and therefore not able to capture? Did I calculate all possible moves correctly before I capture? Etc.



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Essential Question, Level III: Application

What approach would you use to explain this position to a newcomer to chess, and the concept that not all pieces are always attacking each other in the same way they are being attacked?

Answer: Responses will vary, but should demonstrate understanding of the target concepts in this lesson.

Essential Question, Level III: Application

Show your understanding of the “defense” concept by setting up your own example of stopping an opponent’s threat of attacking one of your pieces.

Answer: Responses will vary, and students should respond over their own boards to demonstrate their understanding.

Essential Question, Level III: Application

Making use of the knowledge you now know about the value of each chess piece, why wouldn’t it be good for Black to move his Bishop to a square, like e7, even though it could recapture the White Knight after it takes the Rook on f8?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

If defending the Queen isn’t good for Black, how would you solve this puzzle and play for Black? Explain your answer.

Answer: Responses will vary, but should include a suggestion to move the Black Queen to a safe square instead of defending her.

Lesson 4, Part 2: Counting Attackers and Defenders

Essential Question, Level II: Comprehension

What is meant by 'counting,' and how can it help us decide what is a good or bad capture?

Answer: Counting means you are making sure all of your pieces are adequately protected when the enemy is attacking. Counting is important because it helps us figure out how a tactic will work, and maybe how we can get more material if we know we are attacking a piece or square more than the opponent is defending that piece or square.

Essential Question, Level II: Comprehension

How would you rephrase the concept of 'doggy-pile' in your own words and explain the concept of “a bunch of captures” to a newcomer to chess?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.



Essential Question, Level III: Application

Can you construct your own example (and create it on a board) of how a piece might get trapped?

Answer: Students should demonstrate their understanding of the concept of trapping a piece over a chess board. In this example, they should include positions where a piece is trapped, and not only deprived of safe squares to move to, but also under attack by an enemy piece.

Essential Question, Level III: Application

If it were Black to play, how would you solve this problem for the Black Queen with what you have learned so far?

Answer: Responses will vary, but should include either the Queen moving to the back rank to avoid being trapped, or preventing the Bishop from moving to g5, trapping the Queen.

Essential Question, Level III: Application

In two paragraphs, how you would use the concept of Double Attack in a game, and how you might defend against your opponent's double attacks?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 5: Special Moves—Castling and En Passant

Lesson 5, Part 1: Learning to Castle

Essential Question, Level IV: Analysis

What are the parts and features involved in castling?

Answer: The King can only castle if he is not in check by an enemy piece or passing through a checked/attacked square; if neither he nor the Rook has moved yet; and as long as the process of castling does not end by putting the King in check by an enemy piece. Though responses will vary slightly, students should demonstrate their understanding through clear and concise explanations of these target concepts.

Essential Question, Level IV: Analysis

How is castling related to King safety?

Answer: Responses will vary, but students should demonstrate their understanding that castling provides a safe corner/area of protection for the King, moving him away from the center of the board and behind the protection of Pawns.



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Essential Question, Level IV: Analysis

Having learned what you have about the restrictions and rules to castling, what conclusions can you draw about the importance of “thinking ahead before you move any piece,” especially in regard to moving your King and Rooks?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson—specifically that moving the King or Rook eliminates your legal ability to castle.

Lesson 5, Part 2: Capturing a pawn en passant

Essential Question, Level II: Comprehension

What is the main idea or motive behind capturing a Pawn en passant?

Answer: Responses will vary, but should demonstrate knowledge and understanding of the historical description of en passant, as explained in the beginning of the lesson. Specifically, en passant capture is used to prevent an enemy Pawn from advancing past your furthest advanced Pawns.

Essential Question, Level II: Comprehension

Can you explain the rules of en passant capture as you would to a beginner chess player?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 6: Phases of a Game, Planning, and Your Opponent

Lesson 6, Part 1: The Three Phases of a Chess Game

Essential Question, Level I: Knowledge

How would you describe the Opening to a newcomer to chess?

Answer: Responses will vary, but the students’ explanation should demonstrate their understanding that the Opening is the first stage, the beginning of every chess game.

Essential Question, Level I: Knowledge

How would you describe the transition from the Opening to the Middlegame?

Answer: Responses will vary, but should include emphasizing that the completion of development must happen before the Middlegame begins officially, i.e., all pieces must be off the back rank, pieces should be developed with focus towards the center, and the King should be castled safely.



Essential Question, Level II: Comprehension

Can you explain what Black is trying to achieve in the diagram? Use your own words.

Answer: Responses may vary, but should include that the Queen and Bishop have placed themselves in a diagonal battery, with the intention of creating a mating attack against the White King.

Essential Question, Level II: Comprehension

What is meant by coordinating pieces for attack/defense?

Answer: Responses will vary, but should include discussing how minor and major pieces support each other in a successful attack, i.e. they protect one another, they work together to attack specific targets in the opponent's position, etc.

Essential Question, Level III: Application

How would you apply what you have learned to develop a strong Middlegame that converts into a better or winning Endgame?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson. Students can write their answer or demonstrate their knowledge on the board.

Lesson 6, Part 2: Learning the Basics of “Planning” in Chess

Essential Question, Level 1: Knowledge

Can you list five things you learned about chess from the first five chapters of this curriculum?

Answer: Responses will vary, but should contain key concepts learned from the first five lessons.

Essential Question, Level I: Knowledge

Can you list the other 12 checks available for White? Have you ever played too fast and given a bad check in a game of yours? If yes, write a two-to-three paragraph story about that game and what you learned.

Answer: Responses will vary with open ended answers about their experience of giving bad checks in their own game(s), but the following checks should be listed: Qe8, Qc5, Qb8, Qc7, Qc3, Qe6, Re8, Rg5, Nd3, Nc4, Bh2, Bd4.

Essential Question, Level II: Comprehension

Can you explain what is happening in this diagram, and why it is important to consider every capture, even if the capture seems to lose material in points?

Answer: Responses will vary, but should include noting that considering every capture is important because it could lead to the critical attack or defense of a piece, even at the cost of losing points in material.



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Essential Question, Level III: Application

If this position were Black to play, what move could you play to improve Black's chances and avoid White's idea?

Answer: Responses will vary, but any move that moves the Queen to a safe square (like c4) or moves the King to a square that avoids the Rook and Bishops check (a dark square such as b6, c7, or d6) could be mentioned. Any response from a student that demonstrates their knowledge of needing to put their King or Queen on a safe square from White's coming tactic should be accepted.

Essential Question, Level III: Application

Based on what you have learned, can you explain why the checks, captures, and Queen attacks available for both sides in this position are *not* good moves?

Answer: All checks, captures and Queen attacks in this position lose material pieces.

Lesson 6, Part 3: Why Did My Opponent Move There?**Essential Question, Level III: Application**

How would you apply what you've learned about the development of all your pieces to assess and stop White's threat?

Answer: Responses will vary, but should include the concepts of completing development and focusing on the center. Specifically, protect f7 and White's threat to capture the Pawn and checkmate the Black King with the next Black developing move.

Essential Question, Level III: Application

What moves would you suggest for Black that are safe and in accordance with what the plan should be in the Opening stage?

Answer: Responses may vary, but should include mentioning developing the Knight on b8 (to c6 or perhaps d7), the Bishop on c8 (to d7, e6, or perhaps g4), and getting the Bishop on f8 developed so that Black can castle, etc.

Essential Question, Level III: Application

Using what you already know about the need to complete development and connect the Rooks along the back rank, can you suggest another play for Black that doesn't trap the Knight on e5?

Answer: Responses will vary, but could include 10...Qd6 as a suggestion, or any other moves that involve a plan to get the Queen to a safe square, off the back rank, and help Black complete development.



Essential Question, Level III: Application

Using the knowledge you've gained regarding King safety, can you explain why Black didn't want to capture the Rook on e6, allowing White to take back with check by 40.Qxe6+?

Answer: Responses will vary, but should explain that opening Black's Kingside by taking the Rook on e6 was not going to help Black. After White captures the e6-Pawn with the Queen, White gains a strong attack against the Black Kingside.

Essential Question, Level III: Application

In this position, what questions would you ask yourself before making a move for White?

Answer: Responses will vary, but should include comments about recognizing your own back-rank weakness and being aware of Black's potential threats to attack it. More generally, the concepts of "what weaknesses do I have in my position?" and "what might my opponent be trying to do to me?" are key points and questions to ask.

Lesson 7: The "Quick" and Other Basic Checkmates

Lesson 7, Part 1: Quick Mates in Four Moves or Less

Essential Question, Level IV: Analysis

Considering the best ways to start a chess game, what ideas do you have about how White could have avoided this checkmate in two moves?

Answer: Responses will vary, but two general points should be made:

- Don't move so many Pawns. White made the King completely vulnerable on his weakest square, f2 and along the e1-h4 diagonal.
- Developing pieces instead of moving Pawns is almost always a better way to start a game.

Essential Question, Level IV: Analysis:

What conclusions can you draw about Black's play from this position and his early defeat?

Answer: He did not move his minor pieces towards the center, and he blocked his own development by bringing the King forward.

Essential Questions, Level IV: Analysis

Using the knowledge you've gained about the Opening stage, can you identify White's first mistake in this game?

Answer: Responses will vary, but the main point should focus on how White blocked his own Bishop and Queen with the move 2.Ne2?! That was the first mistake leading to White's early checkmate, because it blocked the Bishop on f1 from guarding the d3-square.



Essential Questions, Level V: Synthesis

Can you think of an original way to explain to a beginner chess player, in two paragraphs or less, why Black needs to defend the e5-Pawn with 2...Nc6 before attacking the White Queen with 2...Nf6?

Answer: Responses will vary, but should highlight the point that giving up the e5-Pawn is bad not only because it loses material, but because it allows the White Queen to check the Black King on e8 after 3.Qxe5, if indeed Black had played 2...Nf6.

Essential Question, Level V: Synthesis:

Can you modify the position in the diagram and explain which two Black pieces would be needed for a similar attack against White's f2-square?

Answer: The Black Queen and dark-squared Bishop on f8 should definitely be mentioned. Ideally, Black would need his Queen on h4 and the dark-squared Bishop on c5.

Essential Question, Level VI: Evaluation

Using what you've learned about the Opening stage, how would you evaluate this position, and what would be the goals for both players at this current stage?

Answer: Responses will vary, but should mention development and bringing pieces toward the center, with the goal of getting the King safe with castling (i.e., typical Opening stage concepts).

Essential Question, Level V: Synthesis:

How would you reconstruct the concept of the "Helper's Mate" for Black to checkmate White on f2 early in the game?

Answer: Responses will vary, but should highlight Black developing the Queen and the dark-squared Bishop early to attack f2, and White playing "helping moves" by not stopping Black's obvious threat of checkmating on f2.

Lesson 7, Part 2: Basic Checkmate Ideas and Patterns

Essential Question, Level VI: Evaluation

Can you assess the value or importance of knowing this mate, especially if one is a beginner in chess?

Answer: Responses will vary, but should include ideas directed at knowing how to mate the enemy King as a crucial part of an Endgame. Two Rooks against a King is a fairly common Endgame for beginning players to reach.

Essential Question, Level V: Synthesis

Using a chessboard, can you construct a diagram or position that would change this position so that there is no back rank mate?



Answer: Responses will vary as students demonstrate their knowledge and understanding of the concept over their own boards, but will likely display positions that involve a King having space to move off the back rank instead of being trapped by his own Pawns.

Essential Question, Level V: Synthesis

Can you construct your own smothered mate for Black, starting with an empty board? For extra credit, can you use the web (and ChessKid.com) to find an article or video on the Venus Fly Trap or a different Smothered Mate?

Answer: Responses will vary as students demonstrate their knowledge and understanding of the concept over their own boards, but teachers should not have a hard time finding material on the Venus Fly Trap and other Smothered Mating ideas on ChessKid.com.

Essential Question, Level VI: Evaluation

What is your opinion of this position? Other than the Pawn and the King, is there another piece that could be placed on f3 that would protect the Queen on g2? Can you imagine placing other pieces on the board to protect the Queen on g2?

Answer: Possible answers of pieces that can be placed to protect the Queen on g2 are: Bf3 and/or any square along the h1-a8 diagonal, Nh4, Nf4, Ne1, Ne3, Rook on g-file or a 2nd rank square, and Pawn on h3 and Kh3.

Essential Question, Level VI: Evaluation

Based on what you've learned, how would you explain a "support mate" to someone who is new to chess?

Answer: Responses will vary, but should include ideas such as other forms of batteries directed at the enemy King, and any piece positioning where one piece or Pawn is protecting (supporting) the piece that is giving checkmate.

Lesson 8: Starting a Chess Game—Opening Principles

Lesson 8, Part 1: The Basics of Development and Queen Play in the Opening

Essential Question, Level I: Knowledge

In one or two paragraphs, how would you explain why it's so important to use all of your pieces in a chess game?

Answer: Responses will vary, but should discuss how piece development and coordination is necessary for any good Middlegame plan, and how developing pieces is the best way to get the King to safety by castling.



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Essential Question, Level I: Knowledge

What makes White's development symmetrical?

Answer: Minor pieces are organized in a manner that is the same on both the Queenside and Kingside.

Essential Question, Level I: Knowledge

Review: Using Algebraic Notation, can you recall the coordinates of all the developed pieces in this diagram?

Answer: White: Nf3, Nc3, Bg5, Bc4, 0-0, e4, d3. Black: Nc6, Nf6, Bg4, Be7, 0-0, e5, d6.

Essential Question, Level I: Knowledge

What is the angle called in which the Knight moves so that it is able to capture the Queen on h4?

Answer: The angle in which a Knight moves is called a right angle in geometric terms.

Essential Question, Level I: Knowledge

What type of line is the Bishop pinning the Queen to the King in this position?

Answer: The angle in which a Bishop moves is a diagonal line in geometric terms.

Lesson 8, Part 2: Advanced Development: Controlling the Center, Connecting the Rooks, and Playing with Purpose

Essential Question, Level II: Comprehension

Can you explain in your own words why the diagonals, ranks, and files that come under attack by pieces in the center are potentially more valuable than the edges of the board?

Answer: Responses will vary, but should focus on key concepts, such as the center of the board being where the most important squares to control are, as well as where both sides will focus their attacks early on, striving for the most active and powerful squares for their pieces. Pieces in the center have more options and are therefore valued higher than pieces on the edge of the board.

Essential Question, Level II: Comprehension

The Knight controls eight squares when placed in the center. What can you say about the shape the placement of the Knights' eight stars create when you connect the stars?

Answer: Responses will vary, but should include the identification of an octagonal shape that is created when the eight squares of the Knight's attack are starred.

Essential Question, Level II: Comprehension

How is the Rook on e1 protecting the Knight on e5—vertically or horizontally?

Answer: Vertically. Vertical lines go up and down, while horizontal lines go right to left, left to right.



Essential Question, Level II: Comprehension

What type of line are the two connected Rooks on, compared to the Bishops when they are developed in the Opening?

Answer: Horizontal.

Essential Question, Level II: Comprehension

Thinking back to much earlier in this game, can you explain what the best answer would be for Black in how he or she could have avoided getting the King to the first rank?

Answer: Responses will vary, but should include how the King should have castled earlier and how pieces should have been developed to help protect the King from moving off the back (8th) rank to begin with.

Essential Question, Level III: Application

At this early stage, who has more control over the enemy's side of the board: White or Black? Apply what you have learned to explain your answer.

Answer: Responses will vary, but White should be considered to have more control because of the Bishop developed to b5 (passed White's fourth rank), while Black has no pieces developed past her or his own fifth rank.

Essential Question, Level III: Application

Why is the e1-square so important where Black has not yet castled and White has? What could the result be if Black never castles? What examples can you give to support your explanations?

Answer: Responses will vary, but may include discussing plans for White's Rook on e1 to both attack the Black King directly along the e-file as well as pin Black's pieces along the e-file, while the Black King remains on e8. Examples may also vary, but could show students placing Black pieces along the e-file, pointing out the pin on the Rook on e1.

Lesson 9: Chess Tactics—Double Attack and the Fork**Lesson 9, Part 1: Essential Tactical Knowledge: Double Attack and the Fork****Essential Question, Level IV: Analysis**

What are the functions of the White Rook and Queen in this diagram?

Answer: The Queen and Rook are controlling files and attacking Black's pieces in the form of double attacks/forks. The Rook's double attack is coming to c7; White Queen's is coming to d3.



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Essential Question, Level IV: Analysis

Analyze the diagram. How many pieces are being attacked by the White Knight, and how many pieces should White actually consider taking, based on their value?

Answer: Including the checked King on f3, the White Knight is attacking eight pieces and Pawns in total. The White Knight could consider taking the Queen and/or either Rook, once Black moves the King out of check, as both the Queen and Rooks are worth more points than the Knight. Because the Queen is of the highest value, White's most likely capture would be to take the Queen on b5.

Essential Question, Level IV: Analysis

What ideas justify the importance of this tactic to work with the Black King placed on a6, allowing the Bishop to come to d3 with check on the second move?

Answer: Responses will vary, but should demonstrate the student's understanding that the entire double attack/fork does not work unless the Black King is on a6, as without this feature in the position, the Bishop moving to d3 would only attack the Rook on f1, and not be a forcing tactic.

Essential Question, Level V: Synthesis

What is the relationship between the White Rook (a1) and the White Knight (d5) in this Royal Fork?

Answer: Responses will vary, but should demonstrate the student's understanding that the Rook and Knight must work together in order for this tactic to work. Without the Rook moving to a8 first to force the Queen away from c7, the Knight could not capture safely, and without the Knight on d5, there would be no point in playing 1.Ra8 to begin with.

Essential Question, Level V: Synthesis

Why do you think the author chose the term "spoon" to describe an ineffective fork?

Answer: Responses will vary, but could highlight the fact that a spoon is round, which means it is not as painful as a fork would be in an attack, etc.

Lesson 10: Chess Tactics—Learning to Pin & Skewer

Lesson 10, Part 1: Winning Chess Tactics: Learning to Pin

Essential Question, Level I: Knowledge

Why is it not possible for a Pawn, Knight, or King to be a pinning piece?

Answer: Responses will vary, but should demonstrate understanding that the Pawn, King, and Knight do not have long-range diagonal or horizontal attacks, which are the only geometrical lines a pin can occur on (i.e., straight lines).



Essential Question, Level I: Knowledge

How would you explain a relative pin to a newcomer to chess? And specific to this position, where can the Black Bishop go to break the relative pin by the Rook and not lose the Queen on g8?

Answer: Responses will vary, but should demonstrate understanding that relative pins do not force the pinned piece to stay on that square. Though relative pins can be powerful and still lead to the loss of material, because the pinned piece is not legally required to stay on the square, there are options for moving the pinned piece. Specific to this position, moving the pinned Black Bishop on g3 to f4 with check would break the pin by the Rook, but not lose the Queen, since the White King has to get out of check first.

Essential Question, Level I: Knowledge

Can you name the two pieces White is using to gang up on the pinned Rook, and explain why it is important that White use both those pieces?

Answer: The Bishop and the Pawn, in its next move, will be ganging up on the Rook on d6. It is important to use both of these pieces, as only one piece capturing the Rook would allow the Black King to capture back.

Essential Question, Level I: Knowledge

Taking a deep look at the position, even if White's Queen were not on e2, would 1...e4 by Black still have the chance of winning material? Explain why or why not.

Answer: Yes! The Knight on f3 is in a relative pin and can move if attacked by e4; however, it will be at the cost of losing either the Queen on e2 or the Rook on d1.

Essential Question, Level I: Knowledge

What is the purpose of the b2-Bishop in this position as it relates to the tactic played by the White Queen?

Answer: The function of the b2-Bishop is to pin the g7-Pawn to the King and control the b2-g7 diagonal, thus allowing White to capture the h6-Pawn that would normally be defended by the g7-Pawn.

Lesson 10, Part 2: Breaking the Pin!

Essential Question, Level II: Comprehension:

Knowing that White's combination with 7.Bxf7+ was good, can you suggest a better developing move other than 6...Bg4? Explain your suggestion.

Answer: Responses will vary. Any suggestion of minor piece development should be considered acceptable; best answers include 6...Nf6, 6...Bd7 or 6...e6.



Essential Question, Level II: Comprehension

Can you suggest the common themes from the last two diagrams that show broken pins?

Answer: Both sacrifice material for a combination that breaks a pin by the Black light-square Bishop on the d1-h5 diagonal. Both involve tactics against the f7-square.

Lesson 10, Part 3: Winning Chess Tactics: Learning to Skewer!

Essential Question, Level I: Knowledge

Can you tell in your own words why a skewer is a more forceful tactic than a pin? Can you set up your own skewer tactic on the chess board?

Answer: Responses will vary, but should demonstrate a knowledge that unlike a pin tactic, in a skewer, the valuable piece is being directly attacked first, and must therefore move to safety. In setting up examples, students should display themes where a piece must move or risk being lost to a lesser-valued chessman. In a pin, the lesser-valued chessman is “stuck” because it is protecting a more-valued piece behind it.

Essential Question, Level II: Comprehension

What is the main issue with White’s position here that allows Black’s tactic to work?

Suggest how you would have changed White’s position to stop the tactic.

Answer: Responses will vary, but should demonstrate knowledge that the theme of the skewer only works here because the White Queen (c4) and White Rook (a2) are on the same line (diagonal), allowing the skewer tactic to occur with Bd5. White could have prevented this skewer by avoiding putting the pieces on awkward squares, such as the Rook on a2.

Essential Question, Level II: Comprehension:

What is meant by “back door” skewer? Explain in your own words.

Answer: Responses will vary, but the terminology of “back door” is suggestive of the idea that the “front” of the position is focused on Black’s Rook taking the a7-Pawn, while the “back” of the position is a surprise check by White on h7, skewering the King and Rook. Because the Black Rook is forced to take a7, it is clearly the main focus of attention, allowing White’s Rook the sneaky tactic on h7.

Essential Question, Level III: Application

What examples can you find to show why the skewer tactic only works when the more valuable piece is the one being attacked and forced to move, unlike the pin tactic?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

Can you explain in your own words why it doesn't matter if you're skewering a piece to another piece, or skewering a piece to a square, as long as what's behind the attacked piece is valuable?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 11: Chess Tactics—Discovered Attacks and Double Checks**Lesson 11, Part 1: Discovering Discovered Attacks in Chess****Essential Question, Level I: Knowledge**

Where will the discovered attack/check happen in this diagram?

Answer: It will occur on the e-file.

Essential Question, Level I: Knowledge

How would you explain the concept of a discovered check to a beginner, namely that the piece moving is not always the piece that is giving check?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level I: Knowledge

How would you explain in your own words why a double attack is better than a single attack, especially when used as part of a discovered attack tactic?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level I: Knowledge

If you could change something about White's position, what would you change to prevent the devastating discovered attack of Bg1?

Answer: Responses will vary; however, it would be wise to move the White Queen away from the targeted position on d3 (because of Black's Rook on d7). It is never a good idea to line up the Queen on a file a Rook shares, due a possible discovered attack.

Essential Question, Level I: Knowledge

Applying what you've learned about thinking before you move, how should White have been thinking in order to avoid overlooking Black's tactic on g2?

Answer: Responses will vary, but should demonstrate an understanding that by asking yourself the questions such as "what will my opponent do next," and



considering all checks, captures and attacks, White could have avoided missing this trick.

Essential Question, Level: Knowledge

What is White's predicament in this diagram that forces his hand to find the great move, 25.Bf6!!?

Answer: White's predicament is that the Bishop on g5 is pinned to the White Queen on h5, so without looking for a forceful way to get out of the attack (by the h6-Pawn), White would just be losing this piece.

Essential Question, Level I: Knowledge

How can you demonstrate your knowledge of the windmill attack against an opponent, and how would you explain why the windmill is so powerful to a newcomer to chess?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 11, Part 2: More Discovered Attacks and Double Checks

Essential Question, Level II: Comprehension

How would you describe the importance of White finding forcing moves, considering his or her own weaknesses in this position?

Answer: Responses will vary, but should demonstrate awareness of White's back rank checkmate (first rank threats of Qa1 and Re1) as well as White's Queen being under attack.

Essential Question, Level II: Comprehension

What is meant by a Queen sacrifice in this diagram? What is happening in the game that causes a Queen sacrifice to occur?

Answer: Responses will vary, but should point to the idea of sacrificing the Queen so that Knight can give mate on f7.

Essential Question, Level II: Comprehension

What can you say about the King's own power when he needs to save himself against a double check?

Answer: The King's own power is very limited; he relies on having squares to move to and/or the room to capture one of the attacking pieces. So, in the case of a double check, because of the inability to do these things, the King's power could be described as hopeless or powerless to defend.

Essential Question, Level II: Comprehension

Looking at the potential issues of White's position, can you describe the importance of White finding the double check/mate-in-three combination that he did in the game?



Answer: Responses will vary, but should demonstrate awareness of the White's own weak King, and Black's threats such as Re1 checkmate. It should also demonstrate understanding and knowledge that the concept of double checks is forcing—powerful enough to stop Black's threats.

Essential Question, Level II: Comprehension

What are the main ideas behind the attraction tactical theme?

Answer: Responses will vary, but should demonstrate understanding that the tactic (in this case, discovered, double check) would not work with the Black Queen "attracting" the White King to f1. Furthermore, the attraction theme is based on bringing pieces to squares they don't want to go to.

Lesson 12: Chess Tactics—Deflect, Destroy and Remove

Lesson 12, Part 1: Removal of the Defender

Essential Question, Level III: Application

Using what you have learned, how would you set up and then solve a deflection problem?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

What elements in a game need to be present to employ a successful distraction using the decoy tactical theme?

Answer: Responses will vary, but should demonstrate knowledge and understanding that a decoy tactic is most effective when an enemy piece is serving a specific purpose, or stopping you from doing something you want to do. Case in point: to distract or decoy a piece away from its desired role is the key to a useful, successful decoy tactic.

Essential Question, Level III: Application

What questions would you ask yourself to determine which tactical theme you could use?

Answer: Responses should include some of these possible questions:

- Do I have enough pieces to create a deflection?
- Can I sacrifice a piece to gain a better, winning position?
- Can I achieve a goal of mine by decoying an enemy piece away from a square or area?
- Can I achieve a goal or improve my chances by attracting an enemy piece to a square it would rather avoid?
- Are all my pieces on the correct squares for the tactic to work?
- Are there intermediate moves my opponent can do to stop my attack and gain material?



Essential Question, Level IV: Analysis

In two paragraphs or less, examine the parts and features of breaking open a King's castled position. What conclusions can you draw from this strategy?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level IV: Analysis

Why do you think it is necessary to sacrifice your Queen in a game sometimes? And why do you think it is important to make sure the Queen sacrifice will work?

Answer: Responses will vary, but should demonstrate knowledge of two specific points regarding Queen sacrifices:

- It is necessary to sacrifice the Queen sometimes because there can be an even greater goal (like checkmate, or the mass win of material) achieved doing so.
- It is necessary to make sure a Queen sacrifice works because otherwise, parting with the most valuable and powerful piece would not be a good idea.

Essential Question, Level IV: Analysis

How is seeing your goal related to winning your game?

Answer: Responses will vary, but should demonstrate both practical and concrete knowledge that achieving one's goals is always conducive to positive outcomes.

Essential Question, Level IV: Analysis

What conclusions do you make about the importance of removing your opponent's defenders in a game?

Answer: Responses will vary, but should mention how, by removing the opponent's defenders, chances of winning increase either through material advantage gain, positional advantage gain, and/or often direct threats against the pieces and squares that those "defenders" were defending before you removed them.

Lesson 13: Rook Mates, Zugzwang, and King Play**Lesson 13, Part 1: Basic Checkmates: King and Rook versus Lone King****Essential Question, Level V: Synthesis**

For review, discuss what other mating pattern used the Knight's check method, and how the concept helps you learn that mating technique. Can you construct some positions on the board?

Answer: Responses will vary, but should include direct mention of the Queen and King versus King mating pattern from Lesson 3.



Essential Question, Level V: Synthesis

What would the result of the game be if Black attempted the final trick and succeeded? Is Black capable of winning this position, or what is his best possible result?

Answer: The game would be a draw. Black is not capable of winning a position with a lone King.

Essential Question, Level V: Synthesis

Can you explain what ideas justify the necessity for the King and Rook to work together in order to checkmate Black?

Answer: Responses will vary, but should demonstrate synthesis of the concepts learned, specifically the need for the Rook and King to coordinate together.

Essential Question, Level V: Synthesis

Can you predict an outcome for White if he cannot successfully cut off the opponent's King?

Answer: If White cannot successfully cut off the opponent's King and forcefully move him to the edge of the board, the end result would likely be a draw.

Essential Question, Level V: Synthesis

If Black could pass his or her turn at will while on g8, and then again whenever she or he wished to, how would you test and prove the theory that White would never be able to achieve checkmate?

Answer: Responses will vary, but should include the understanding that the position would be drawn because, without the requirement to move, Black would never be forced to take a square that allows White to checkmate.

Lesson 13, Part 2: Zugzwang Explained

Essential Question, Level I: Knowledge

How would you explain Zugzwang to a new chess player?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level I: Knowledge

Can you list three reasons why it would not be good to be placed in Zugzwang by your opponent?

Answer: Possible answers may include:

- You could lose a winning position, by having to make a move that makes it drawing or losing.
- You could lose a piece by having to make a move that leaves a piece unprotected.
- You could lose the game by having to move your King to a square that allows checkmate, as we see in the King and Rook versus King checkmate pattern.



Essential Question, Level II: Comprehension

Can you explain whether or not someone can be in Zugzwang if they still have good, useful moves to make?

Answer: No. The definition of Zugzwang (“move compulsion”) suggests that the player is unhappy to have to make this move. If good moves exist that do not take a winning position to a drawn or worse one, or take a drawn position to a losing one, etc., then the player is NOT in Zugzwang.

Essential Question, Level II: Comprehension

Can you explain why Black’s material advantage of two Pawns to start this position does not help Zugzwang?

Answer: The Pawns do not help Black’s Zugzwang because he or she cannot avoid making a move (g6-g5 specifically) that loses the Pawn and leads to the checkmate mentioned in the diagram.

Essential Question, Level II: Comprehension

This position is also a forced checkmate in four moves. Can you see how White can checkmate Black quickly after promoting to a Queen on g8?

Answer: The forcing line is as follows: 1... Kh7 2.Kf7 Kh6 3.g8(Q) Kh5 4.Qg3! (the key to the fast mate as it forces Black’s King back to h6) 4...Kh6 5.Qg6#

Lesson 13, Part 3: King Play, King Power, and King Activity

Essential Questions, Level IV: Analysis

What is the function, if any, of the King in the Opening stages of the game? Can you explain when it would make sense to use (or not use) him in other stages of the game?

Answer: Responses will vary, but should indicate an understanding of castling, and that protecting the King and keeping the King safe in the beginning of the game is the goal. Students’ explanations should also include mention of the King’s usefulness in the Endgame, as there are less pieces to attack and make him vulnerable.

Essential Question, Level IV: Analysis

What conclusions can you draw from risking King safety for material gain in a game?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level IV: Analysis

How would you categorize the two Kings in this diagram? Is either King more or less powerful than the other? Why or why not?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.



Essential Question, Level IV: Analysis

Can you analyze how the balance between the King's safety and power is related to its position on the board and the position of the other pieces?

Answer: Responses will vary, but should demonstrate both knowledge and understanding that the King's power is limited when it is far away from its pieces and the center of the board. Furthermore, his safety is generally compromised when there are less pieces of the same color to help in his defense. It could be stated in general that a more powerful and open King is also subject to be more vulnerable, except in the Endgame, where a centralized King is almost always at its best because of the opponent's lack of resources to attack him.

Essential Question, Level IV: Analysis

What evidence can you find to support why Black was unable to prevent or challenge White from bringing the King to h6?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level IV: Analysis

What ideas or general themes about chess that you've learned justify King activation in the Endgame?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level IV: Analysis

Why do you think tempo is an important aspect to positions where both sides are racing to achieve a goal?

Answer: Responses will vary, but should mention that tempo is important because it gives you a head start towards a winning position and creates initiative throughout the game, leaving your opponent 'lagging' behind. Tempo or time is gained in chess by making forcing moves and threats, so in a "race" position, it could be surmised that gaining tempi and time is of great value.

Essential Question, Level IV: Analysis

Given what you've learned about King activity, how is knowing good rules of thumb before looking to activate your King into the center of the board related to King safety and success?

Answer: Responses should demonstrate appreciation for the importance of not putting the King in unnecessary danger. Furthermore, answers should display an understanding that good rules of thumb (known to be considered as good mental check list points) should always be followed before risking the position of your most valued piece (or asset, to make a practical life comparison).

Lesson 14: Passed Pawns, Promoting, and Other Pawn Tactics

Lesson 14, Part 1: Introduction to Passed Pawns and Basic Pawn Play Strategy

Essential Question, Level II: Comprehension

Can you explain in your own words why a passed Pawn is more valuable than other Pawns in the Endgame?

Answer: A passed Pawn is more valuable than other Pawns on the board because it has the potential to promote to a minor or major piece, usually a Queen.

Essential Question, Level II: Comprehension

Does it matter which Pawn White moves? Can you explain why or why not?

Answer: Responses should mention that because White has passed Pawns on both sides of the board, and it will not be possible for Black to stop both, it does not matter which Pawn White moves first.

Essential Question, Level III: Application

What elements could you change about this position to improve Black's chances (add Pawns, improve the King, etc.)?

Answer: Responses will vary, but should include mentioning that by adding Black's own Pawns to the Queenside, Black can likely change White's now-passed a-Pawn into a normal Pawn, thus eliminating White's advantage.

Essential Question, Level III: Application

Using what you've learned, can you make the right moves for White to win this game? Can you explain your plan in your own words, and use Algebraic Notation where needed?

Answer: Responses will vary, but should include White going after the h7-Pawn first, so that it does not Queen. Once the h-Pawn is captured, White's plan should include bringing the King over to the Queenside to finish off the game. Pointing out that Black's King is stuck to the protection of the passed b-Pawn, which is what allows White to undertake this time-consuming plan, is critical to displaying an understanding of the concepts taught here.

Essential Question, Level IV: Analysis

What is the function of the Black King remaining next to those two Pawns in this Endgame? Why must he try to prevent them from moving forward?

Answer: He will not be able to catch up and stop the Pawns from Queening if he moves too far away from the Pawns.



Lesson 14, Part 2: Under-Promotion, Pawn Tactics, and Rule of the Square

Essential Question, Level III: Application

Given the information you now know, how would you try to solve a promotion tactic where your Pawn was one square from Queening but was pinned from moving forward?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

What is the most important element in deciding who will win a Pawn race in the Endgame? Explain in two paragraphs or less.

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

What facts would you select to show the importance of under-promotion to avoid stalemate to a new chess player?

Answer: Responses should include the importance of identifying situations that could end in stalemate instead of a win, unless the Pawn is promoted to a lesser piece (like a Rook), instead of a Queen.

Essential Question, Level III: Application

How would you apply what you have learned to explain the effectiveness of under-promoting to a Knight in this position?

Answer: Responses should indicate understanding that promoting to any other piece besides a Knight would not check the Black King, would not fork the King and Queen, and ultimately would leave White in a still worse position.

Essential Question, Level III: Application

How would you make use of this information to stalemate or draw an otherwise losing position in your own games?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

What approach would you use in a King and Pawn Endgame to make sure your King remained in the “imaginary square” or box?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level III: Application

What questions would you ask yourself in a game to help you reach your goal of stopping the enemy Pawn?

Answer: Responses will vary, but could include:

- Is my King inside the “magic square” of catching up to the Pawn?
- Is my opponent’s King stopping me from catching the passed Pawn?
- Can I gain tempo on the promoting Pawn by attacking other pieces or squares in my opponent’s position?

Essential Question, Level III: Application

If Black’s King were already one square closer on c5 to start the position, would the tactic of 1.d6! still work? Explain your answer.

Answer: No. It wouldn’t work because the Black King could capture the d6-Pawn, thus keeping the King within reach of the passed f-Pawn.

Essential Question, Level III: Application

If it wasn’t for the rule that Pawns can move two squares on their first move, would this exception to the rule of the square be possible? Explain your answer.

Answer: No, without the rule that Pawns can move two squares on their first move, this exception to the “rule of the square” would not be possible.

Lesson 15: Opposition and Advanced King Play

Lesson 15, Part 1: Opposition Explained with Basic King and Pawn Endings

Essential Question, Level I: Knowledge:

How would you explain to a new chess player that White must promote the e-Pawn in order to win the game?

Answer: Responses will vary, but should include the basic understanding that two Kings left on the board with no other pieces or Pawns is a draw, and that White in this position is winning only if the e-Pawn can promote, giving White a second piece to help checkmate the Black King.

Essential Question, Level I: Knowledge

Can you explain to one of your classmates, collaborating when needed, why White wins every time in this position, even when White does not have the opposition?

Answer: Responses will vary, but should include discussing that once the White King is on the sixth rank, opposition is no longer needed, because White has the initiative and forces Black from the back rank square he wishes to guard.



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Essential Question, Level I: Knowledge

Can you tell why it's important to keep the goal position in mind when you're planning ahead?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level I: Knowledge

Can you recall any real-life examples where two elements or people are opposed to one another?

Answer: Responses will vary,

Essential Question, Level I: Knowledge

Using what you've learned so far about opposition being the tool needed to help your Pawn advance and promote, can you assess why the Rook Pawn will offer less winning chances for White?

Answer: Though students will not possess full knowledge yet, answers should include awareness that a central Pawn gives more options than a Rook Pawn, as there are two files adjacent to a central Pawn. Furthermore, recognition that opposition forces "choice" by the opponent, and this choice is what allows the White King to choose a path forward, is also a key distinction to make between center and Rook Pawns. Because the Rook Pawn is an "edge Pawn," the Black King is not forced to choose a direction to go, and this potentially prevents White from making progress.

Essential Question, Level II: Comprehension:

Do you understand why it is important for Black to retreat the King to e8 and gain the opposition on either Kd6 or Kf6 by White? Explain.

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level II: Comprehension

Can you explain in your own words what is happening in the diagram, and how Black can draw?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level II: Comprehension

How would you compare and contrast a King's decisions in a Rook Pawn Endgame with a King's decisions in an Endgame where the Pawn is in or near the center of the board?

Answer: Responses will vary, but should highlight that the defending King is not "leaving anything behind" when he makes his choice in the corner. Because there is



no “i-file,” White has no file to make progress on once the Black King moves out of opposition.

Essential Question, Level II: Comprehension

What can you say about White’s Endgame strategy of walking alongside the Pawn as a means to win?

Answer: Responses will vary, but should demonstrate a student’s full knowledge and understanding that the King is not only continually guarding the Pawn as it moves forward, but also keeping an eye on the future Queening square and/or goal of “King on the sixth, Pawn on the fifth.”

Lesson 15, Part 2: Distant Opposition

Essential Question, Level III: Application

Applying what you have learned so far, can you explain in two paragraphs or less what you would need to change about this position for White to be winning?

Answer: Responses will vary, but should include a discussion about White gaining the opposition and tempi for the King and Pawn to move up the board.

Essential Question, Level III: Application

How would you use your knowledge of the obvious goals in King and Pawn Endgames, and of opposition, to explain why Black is easily drawing on the other moves White can play besides 2.Kc5 and 2.Kd5?

Answer: Responses should include mention that all other King moves go either away or behind the Pawn, and so they clearly do not make progress, while pushing the d-Pawn breaks the rule they’ve been taught to never advance the Pawn in front of the King.

Essential Question, Level III: Application

What would be the result if Black did not wait and maintain the distant opposition, moving to e7 or c7 on his first move, instead of 1...Kd7?

Answer: If Black does not wait to gain and then maintain the distant opposition (i.e., only moving to e7 after 2.Ke3 or only moving to c7 after 2.Kc3), he will lose. White would meet 1...Ke7 with 2.Kc3!, avoiding the distant opposition. Likewise, 1...Kc7 would be met by 1.Ke3!, once again avoiding Black’s distant opposition.

Essential Question, Level III: Application

How would you solve Black's dilemma of not being able to gain the distant opposition? If you could place the Black King on a different starting square besides g8, what square(s) would you choose?



Answer: Responses will vary, but should demonstrate knowledge that putting the King closer to the c, d, and e files is better for Black's chances of gaining the distant opposition and avoiding White's winning plan from the diagram.

Essential Question, Level III: Application

If you were playing White, what questions would you ask before deciding your move?

Answer: Responses will vary, but should demonstrate the student's knowledge and understanding that he or she wants to avoid the Black King, which is why going towards the Queenside (Kd2-c3) is the best option.

Lesson 15, Part 3: Irregular Opposition

Essential Question, Level III: Application

What would be the result if Black were to move first?

Answer: Black could draw if he or she moved first, only with the move 1...Ke7, taking the opposition.

Essential Question, Level IV: Analysis

What evidence do you see here that shows a winning position for White?

Answer: Responses may vary to include mention of Black not being able to stop White from winning the Pawn, to Black's King clearly having less options than Whites'. However, the main point of evidence that White is winning is that once White captures the g6-Pawn, he is immediately in the (should be by now) well-known winning position of King on the sixth, Pawn on the fifth.

Essential Question, Level IV: Analysis

Why do you think the corresponding squares are called "don't touch me first" squares? Use your own words to explain.

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level IV: Analysis

What ideas justify the importance of irregular opposition and the King dance, and why it's so important to have the more active King in King and Pawn Endgames?

Answer: Responses will vary, but should demonstrate students' knowledge and understanding that an active King is much more likely to achieve his goals of both targeting enemy Pawns and helping his own Pawns advance. Furthermore, because Kings can only move one square at a time, it is crucial to get your King in good, positionally active scenarios first (before the enemy King does), where the chance to create threats is increased.



Lesson 16: Advanced Endgame Play and Winning Technique

Lesson 16, Part 1: Win When Winning—the Principles of Technique

Essential Question, Level I: Knowledge

Other than the fact that Black is down a piece, would you say both sides followed the principles of the Opening? Give examples to support your answer.

Answer: Yes. Possible reasons:

- Minor pieces are in the center.
- Kings are castled.
- Rooks are connected.

Essential Question, Level III: Application

What approach would you use to turn this into a winning Endgame for White?

Answer: Responses will vary, but should include discussing both ways to use the extra piece (Knight on d4) and otherwise follow Endgame principles such as activating the King, creating a passed Pawn, and preventing the opponent from doing the same.

Essential Question, Level III: Application

How would you use or avoid Pawn exchanges in a game, knowing what you have learned so far about trading Pawns and simplifying a position?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level V: Synthesis

Can you think of an original way to explain to a newcomer to chess the concept of minimizing risk? Consider using real life comparisons and examples of avoiding unnecessary risks.

Answer: Format for answering this question can be classroom discussion, open ended response, or a demonstration. Responses will vary, but should show a student's understanding of why it's generally advantageous to avoid unnecessary risk both on the chess board and off. Teacher/coach may consider additional writing assignments.

Essential Question, Level IV: Analysis

Can you make a distinction between your own weaknesses and strengths in a game?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.



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Essential Question, Level IV: Analysis

How is developing all your pieces related to creating or maintaining an advantage in the Opening?

Answer: Responses will vary, but should clearly explain how to use development as a means to gain the initiative early on in the game and as a tool to coordinate and organize all your pieces for plans of attack. When all pieces are developed and working together, the King is castled, and the Rooks are connected, there are always better chances of victory against the opponent.

Essential Question, Level V: Synthesis

Can you elaborate on the reason why you should not force all trades blindly, even when ahead material in a game?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level V: Synthesis

Can you assess and elaborate on why you think it would be bad for Black to give White the only light-squared Bishop as suggested above?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 16, Part 2: The Magic Square Technique: Queen Versus Advanced Pawn(s)

Essential Question, Level V: Synthesis

Without seeing the entire pattern yet, but knowing Black's goal, can you discuss possible reasons White would want to force the Black King in front of the e-Pawn on e1?

Answer: Responses should include the fact that when Black King is forced to e1, he is self-blocking the e2-Pawn from Queening. The e1-square is the only square that allows the Pawn to promote, so avoiding this square is obviously within Black's goals. However, with the proper approach from White, it cannot be done.

Essential Question, Level V: Synthesis

What features in the current position make this repeating pattern essential for White in order to create an unfavorable position for the enemy King?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson, as well as similar information in the answer to the previous essential question.

Essential Question, Level VI: Evaluation

Having now observed the pattern to its completion, how you would explain this technique, and the importance of not letting Black promote the e-Pawn, to a new chess player?



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Answer: Responses will vary, but should include the obvious point of preventing Black's only goal: to promote the e-Pawn to a Queen. Furthermore, the only way to do this is by using the repeated pattern of logical checks, and proper Queen positioning, to force the Black King to the undesirable square of e1 eventually, which allows White's King to inch forward. Students who can stress the importance of the pattern "repeating" should be able to make a lasting impression on a newcomer's understanding of this technique.

Essential Question, Level VI: Evaluation

If you could choose what pieces to add to Black's position to un-stalemate the King, but still leave you confident that you could win the game as White, what pieces would you choose?

Answer: Responses should include adding various ineffective pieces for Black. Specifically, adding a Knight, Bishop, and even Pawns will likely not change the outcome that White is easily winning with the extra Queen, but because they can make legal moves, they will have un-stalemated the Black King and put Black into a lost position.

Essential Question, Level VI: Evaluation

Evaluate the position. After 1...Kh1!!, how close would the White King need to be in order for this position to be winning? How would you explain your answer, using general terms in addition to stating specifically where you would put the White King if you could put him on any square?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson. Detailed answers will include specific square mentions for the White King, such as e3, e2, f3, and h3 as squares that, with White to move, would change White to winning the position, either by immediate checkmate, or by giving White the new ability to take the Pawn without stalemating Black by the right series of moves.

Lesson 17: The Fundamentals of Positional Chess

Lesson 17, Part 1, Positional Chess: Doubled Pawns

Essential Question, Level I: Knowledge

How would you tell a new chess player in your own words what Doubled Pawns are and why it's generally good to avoid them?

Answer: Responses may vary, but should include target concepts in the lesson such as:

- They are easily attacked.
- They cannot protect each other.
- They cannot move as quickly up the board, since one Pawn always blocks the other.



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Essential Question, Level I: Knowledge

Can you explain in your own words why White's extra Pawns can do nothing to prevent Black from winning?

Answer: Responses will vary, but should include target concepts taught in the lesson, specifically that twins and triplets are ideal extra Pawns to have in a chess game.

Essential Question, Level II: Comprehension

What can you say about why Black's doubled g- and c-Pawns are not any weaker, at this point, than White's Pawns? Can you explain what is happening in this position?

Answer: Responses will vary, but should include mention of the potential usefulness of the open files (h and d) that double Pawn captures award to Black. Furthermore, that the doubled g- and c- Pawns themselves are well protected by their brother Pawns, and therefore not real targets for White's pieces at this point.

Essential Question, Level II: Comprehension

How would you compare and contrast doubled Pawns that are not that weak with doubled Pawns that are very weak in a specific position?

Answer: Responses should demonstrate clear knowledge and understanding that doubled Pawns receiving protection from their brother Pawns on adjacent files are not terrible weaknesses, and again, can often award other values to a position. However, isolated double Pawns that receive no protection are positional weaknesses of the highest order in chess.

Essential Question, Level II: Comprehension

Can you explain a few developing moves you would make for Black to demonstrate Black's compensation for the doubled c-Pawns?

Answer: The side with doubled Pawns should take advantage of the open files and available diagonals to gain compensation for those doubled Pawns.

Essential Question, Level II: Comprehension

How would you summarize, by comparing and contrasting, the imbalances of doubled Pawns in a chess game?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 17, Part 2, Positional Chess: Isolated Pawns

Essential Question, Level I: Knowledge

What advantages does each side gain when pawn islands are created on the board?

Answer: Responses will vary, but should mention that each side gains the advantage of open files, open lines, and open squares for their pieces, as well as the potential to target the enemy's isolated and weak Pawns, especially if the enemy has more Pawn islands.

Essential Question, Level I: Knowledge

For review, can you explain to a newcomer why an isolated Pawn is weaker than other Pawns?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question, Level I: Knowledge

Can you list three ways a centrally located isolated Pawn can help you in your game (i.e. control open files, etc.)?

Answer: Responses will vary, but should include:

- Controlling open files.
- Centrally located Pawns control more critical squares (the center squares).
- Offer active space for major and minor pieces.
- Offer support positions for the minor pieces in the most important area of the board (the center)

Essential Question, Level II: Comprehension

How would you compare the isolated Queen Pawn to other isolated Pawns on the board?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson, and could include similar mentions of the strength of a centrally located isolated Pawn from the answers given to the previous question.

Essential Question, Level II: Comprehension

What can you say about developing your plan when you think about it as the opposite of your opponent's plan in an IQP position?

Answer: Responses will vary, but should reflect a student's understanding that whatever your own plan is in an IQP (or most any positions, for that matter), your opponent will be trying to do the opposite. So as the target concepts of this lesson highlight White's goals to be active, control the center, place Rooks on the open files, etc., we can imagine that Black's goals will be to challenge White and to do the same: control center squares, fight for the open files, attack the isolated Pawn, etc.



Lesson 17, Part 3, Positional Chess: Backward Pawns and Outpost Squares

Essential Question, Level I: Knowledge

Why is it that you normally have an outpost square weakness associated with a backward Pawn? What is their relationship to each other?

Answer: Responses should demonstrate knowledge and understanding that the relationship between a backward Pawn and an outpost square is a symbiotic one: you cannot have one without the other. A Pawn is backward when it's brother Pawns on the adjacent files have "left it behind," and an outpost square occurs only when a square can no longer be protected by Pawns on the adjacent files, as again, they have advanced too far past this square and can no longer return to provide protection for it.

Essential Question, Level I: Knowledge

What is the problem in a game if someone's play related multiple backward Pawns and outpost square weaknesses in their own position?

Answer: Responses will vary, but should discuss the sloppy planning on a person's part when choosing to push Pawns forward, creating multiple backward Pawns and allowing the enemy into his or her territory via outpost squares and other weaknesses.

Essential Question, Level II: Comprehension

Can you demonstrate your understanding of why White is better in this Endgame by explaining a winning plan to your teacher and a student of lesser chess knowledge than yourself?

Answer: Teacher should be observing accuracy in students' understanding of general Endgame knowledge, i.e., King activity, the goal of attacking weak Pawns and creating passed Pawns, etc. Specific to this Endgame, White can use the dominant Knight to attack Pawns that the King and Bishop will not be able to defend. See plans mentioned with diagram for examples.

Essential Question, Level II: Comprehension

What can you say about weak squares and how they give the opponent clear targets, especially as it relates to King safety?

Answer: Responses will vary, but should discuss identifying the target squares around the King's position (whether castled or centralized) in any game, and that target squares and weak color complexes only occur when Pawns push carelessly around a King's position, allowing potential attacking opportunities for the opponent on those squares.



Essential Question, Level II: Comprehension

What ideas can you interpret to show your understanding of a backward Pawn and an outpost?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 18: Learning to Play with the “Little Guys”**Lesson 18, Part 1: Pawn Majorities and Minorities: The Basics of Pawn Play****Essential Question: Level II: Comprehension**

How would you explain to a beginner chess player why a Pawn majority and the threat of advancing, trading, and promoting a Pawn is such a big deal?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Essential Question: Level II: Comprehension: Change the Blooms

How would you rephrase the meaning of *pretender* and *passer* in your own words to explain their value?

Answer: Responses should demonstrate clear knowledge and understanding that a pretender is still “pretending” to be the type of Pawn it wants to be (as all Pawns want to advance and eventually promote to higher valued chessmen), whereas a passer has already achieved the goal of being a Pawn that threatens to advance up the board and promote.

Essential Question: Level II: Comprehension

What is the main idea behind the importance of a Pawn majority?

Answer: A Pawn majority has strong potential, if played correctly, to advance to Pawn promotion—usually into a Queen, for the sake of winning the game.

Essential Question: Level III: Application

What approach would you use if it were your move as White in the given position?

Answer: Responses should demonstrate your students’ abilities to develop a good plan based on the features of a specific position. White should be aware of Black’s highlighted threat of Pawn b5-d4, attacking the Knight, undermining the Knight’s protection of the e4-Pawn, and opening the c-file for Black’s Queen and Rook. Perhaps the best move suggestion here is Bd3, as it defends the e4-Pawn and the c2-Pawn, preventing both of Black’s threats. Most important from this exercise is that students display reasoning and critical thinking in regards to their own move considerations as it relates to the target concepts of the lesson.



Essential Question: Level III: Application

What questions would you ask yourself before making a plan as White to try to simplify this position?

Answer: Responses will vary, but could include questions such as:

- Do I have enough Pawns going against my opponent's Pawns to create a passer?
- Which Pawns and pieces should I trade to improve my position?
- Is my position good enough to simplify into a winning Endgame?
- Where are the best open lines, files, diagonals, and squares for my pieces?
- What is my opponent's goal and plan here, and how can I prevent their ideas while executing my own?

Lesson 18, Part 2: The Basics of Pawn Structure and Advanced Pawn Play

Essential Question: Level III: Application

Can you make use of the facts in this position and others to explain in your own words why it makes sense to use the open spaces the Pawns have provided in the open center, instead of trying to create new open lines away from the center?

Answer: Responses will vary, but should discuss target concepts learned from the description of the diagramed position, and could include direct mention of the fact that using the files, diagonals, and squares *already available* to your pieces generally makes more sense than striving to open *new* files, diagonals, and squares for your pieces.

Essential Question: Level IV Analysis

Using your knowledge of why isolated Pawns (the d6-Pawn, after the moves above) are weak, why do you think Kramnik's plan of Re4-d4 was good? What do you think White's plan might have been after that?

Answer: Responses should include understanding target concepts from both this and the previous lesson on isolated Queen Pawn play. White's goal will clearly be to attack the d6-Pawn, with the executed plan of Re4-d4 by Kramnik, and students' assessments of the future plans of this position should include mention of attacking the weak, isolated d6-Pawn.

Essential Question: Level IV: Analysis

Using compare and contrast methods, can you explain all the ways this position is different from our first open center Pawn structure example?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.



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Essential Question: Level IV: Analysis

What ultimate goal do you think Black has in mind in advancing the a- and b-Pawns?

Answer: Responses will vary, but could include mentions of the following:

- To open lines for the Black minor pieces and Rooks behind the Pawns.
- To attack White's Pawns (c3 and b2 specifically) as a means to undermine White's Pawn chain.
- The ultimate goal of advancing to create the threat of a passed Pawn.

Essential Question: Level V: Analysis

What could Black have done to defend the position better, both before and after White's 17th move? Can you analyze the position to find an outcome?

Answer: Responses will vary, but could include mentions of the following:

- Black could have captured on f3 with the Bishop on b7 after White pushed the e5-Pawn. This move would attack the White Queen and force a recapture, after which Black could have moved the Knight and avoided the tactic executed by White in the game.
- Black could have strived harder to prevent e5.
- Black could have prevented the sacrifice on h7 by moving his Pawn from h7 to h6 earlier in the game.

Lesson 18, Part 3: Advanced Pawn Play, Space, and Building Strength

Essential Question: Level V: Synthesis

How would you modify Black's plan to gain more space to improve the position? If you don't see any obvious way to do so, suggest a plan Black should have adopted earlier to prevent this cramped position.

Answer: Responses will vary, but should demonstrate understanding of target concepts taught in the diagram's description. Specifically, Black could have placed the Pawns on better squares earlier in the Opening (like e5 and d5, when it was still safe to do so). Students should be encouraged to display solutions over the board, moving the pieces (back to earlier in the game or forward from this point) to show their understanding of how to better create a space advantage and avoid cramped positions.

Essential Question: Level VI: Evaluation

How would you evaluate, based on your knowledge of Pawn chains, where Black might look to attack and plan in this position?

Answer: Responses should reflect knowledge of students' current understanding of Pawn chains. Pointing out that Black's Pawn chain is facing the Queenside, specifically e7-d6-c5, suggests that Black could and should be looking to attack on the Queenside. Plans to expand the Pawn chain in that direction, with moves like Rb8 to support b5 and b4, would make sense, given the current discussion and knowledge of Pawn chains and Pawn structure. Also mentionable could be Black's control over the central dark squares (e5 and d4) and the idea to attack and use those squares for the minor pieces.

Essential Question: Level V: Synthesis

Based on what you've learned so far, how would you explain any other times when you might want to move a Pawn first, before developing a Knight, in hopes of increasing your control over the center or another area of the board?

Answer: Responses will vary, but should demonstrate knowledge and understanding of target concepts in this lesson.

Lesson 19: Bad Pieces and Other Advanced Piece Play

Lesson 19, Part 1: Cramped/Bad Pieces: Nominal versus Absolute Piece Power

Essential Question, Level III: Application

Which piece, when placed in the corner, controls only three squares, but when placed in the middle of the board, controls eight?

Answer: The King.

Essential Question, Level III: Application

What examples can you find from master games, or from your own games, in which pieces of equal nominal value were clearly not equal in the position?

Answer: Responses will vary, but each student should demonstrate over the board their understanding of the target concepts.

Essential Question, Level III: Application

What examples can you find in a chess game where it would be worth sacrificing points to increase the actual power of one of your pieces, or decrease the actual power of one of your opponent's pieces?



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Answer: Responses will vary, but should include discussion of sacrificing a piece for the sake of positional gain, activity gain, and/or the potential to create strong threats against a certain area of the board or piece (like sacrificing for a mating attack against a King). The same concepts are applicable to a student's description of removing an imminent threat imposed by the opponent.

Essential Question, Level III: Application

What approach would you use to explain to a new player why White was forced to play the brilliant drawing combination shown here, given that White would otherwise be losing?

Answer: Responses should demonstrate understanding target concepts learned in this and previous lessons. Specifically, Black's large material advantage would obviously have led to a victory for Black if White had not acted.

Essential Question, Level IV: Analysis

Why do you think the ability to make threats and improve your position with a plan is more important than being up by material points, in most cases?

Answer: Responses will vary, but should demonstrate clear knowledge and understanding that the ability to make progress and improve on a position (or anything in life) is often more valuable than the current assessment of the material points or evaluation of the position.

Lesson 19, Part 2: Sidelined Minor Pieces: Knight on the Rim and Bad Bishop

Essential Question, Level IV: Analysis

What are the features of a grim Knight as seen in the diagram?

Answer: The Knight, unfortunately, cannot utilize all of its power when on the edge of the board. When a Knight is on the edge of the board, it can only attack minimal squares instead of eight, which is what it is capable of attacking or protecting at its most powerful. The Knight's inability to stop a lonely, single passed Pawn reflects its limitations clearly.

Essential Question, Level IV: Analysis

Can you contrast and compare all three Knights on the board in this diagram?

Answer: Responses will vary, but shouldn't deviate too far from the obvious features of these Knights on the board, and how some cover more squares than others based on their optimal or sub-optimal positions.

Essential Question, Level IV: Analysis

Can you infer what is meant when a Bishop is called a "big Pawn?"



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Answer: A Bishop is often referred to as a big Pawn when it is left protecting Pawns in a Pawn chain, often just replacing the functions that a normal Pawn could serve, and cannot use its full attacking scope as it would on open diagonals.

Essential Question, Level V: Synthesis

If you were playing White at the earlier stages of this game, what might you have avoided doing with your Pawns?

Answer: Responses should indicate a student understands that placing all the Pawns on light-squares greatly contributed to the inactivity of the bad Bishop on d1. Furthermore, pushing all those Pawns to light-squares in this way also allowed Black to grab hold and maintain control of the central dark-squares you currently see the Knight and King out-posted on.

Essential Question, Level V: Synthesis

In addition to the board being open, which naturally favored the Bishop, what inferences can you make about the position of the Knight on d1 and how it contributed to the Knight getting trapped?

Answer: Responses should mention earlier lessons of avoiding placing Knights on the edge of the board, as Knights on the rim are grim. As mentioned, the Bishop would be favored over the Knight in an open position regardless, but the Knight's extremely poor position could have been avoided by avoiding the edge.

Essential Question, Level V: Synthesis

Can you elaborate on the reason why these Bishops are considered empty?

Answer: They can't do anything in terms of attacking enemy pieces, enemy Pawns or targets, or the enemy King; nor can they challenge one another directly. They are impotent.

Lesson 20: Playing Tournament-level Chess

Lesson 20, Part 1: Finding High-Level Plans and Critical Thinking in Chess

Essential Question, Level V: Synthesis

What plans would you choose and steps would you take to minimize your chances for losing right out of the Opening?

Answer: Responses should be reflective of the steps discussed throughout the entire curriculum, with specific mentions to the ideas explained in the first diagram of this lesson.



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Essential Question, Level V: Synthesis

Can you elaborate further on the critical thinking concepts required and applied when developing a plan that your opponent cannot stop?

Answer: Responses should be reflective of the steps discussed throughout the entire curriculum, with specific mentions to the ideas explained in the second diagram of this lesson.

Essential Question, Level V: Synthesis

Can you invent some questions you could ask yourself in a crucial Endgame position that would help you make the fewest errors possible?

Answer: Responses should be reflective of the steps discussed throughout the entire curriculum, with specific mentions to the ideas explained in the third diagram of this lesson.

Lesson 20, Part 2: Prophylactic Thinking in Chess

Essential Question, Level V: Synthesis

Prophylactic thinking in chess is about the proper anticipation and prevention of your opponent's ideas, plans, and threats. Can you imagine a real-life comparison to emphasize the importance of thinking of others around you, what their goals and plans might be, and how those goals and plans can affect you in a negative or positive way?

Answer: Students can demonstrate their understanding of this concept by reflecting on their own experiences, describing a made-up scenario, or even describing similar situations from books, movies, tv, or other experiences they've had. Answers will vary on correctness at the teacher's discretion.

Essential Question, Level V: Synthesis

Suppose you were in this position and were offered a draw. What could you do before accepting the draw? Think about prophylactic thinking!

Answer: Responses will vary, but should include a discussion on how to consider all moves available for oneself and one's opponent, to get the advantage in the game that is initially seen as a draw, or that is offered up as a draw by, perhaps, a nervous opponent. Asking yourself if there is anything that can be done to get an edge on the game will increase the possibility of discovering a win for yourself and not settling for a draw!

Essential Question, Level IV: Analysis:

What is the function of White's Rook on d1 as it relates to protecting White's biggest potential weakness on the board (the back rank)?

Answer: Responses should demonstrate knowledge and understanding that the Rook is key to defending White's biggest potential weakness on the board, specifically as it relates to the potential tactic that Black could get in the game if



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White were to capture on e7 and then the d6-Pawn. If a student is aware of the Rook's role in safe-guarding the King, they are more likely to be careful before opening the d-file and allowing their opponent potential tactics against the Rook and the back rank.

Essential Question, Level V: Synthesis

How would you change your own lack of prophylaxis in your chess games to create a different outcome (a win instead of a draw, a draw instead of a loss, etc.) with a more organized thought process?

Answer: Responses will vary here based on individual student experiences in their games. Perhaps they can play a game over the board and discuss ideas of prophylaxis while playing the game.

Lesson 20, Part 3: Perpetual Check, Three-Fold Repetition, and the 50-Move Draw

Essential Question, Level I: Knowledge

Why might it make sense to bail out in a position with a draw, rather than play on in an otherwise worse or losing position? Can you explain this to one of your classmates?

Answer: Responses will vary, but should include the concept that drawing is better than losing! If you reject a draw offer, you will not have much chance for success if you are strategically or materially much worse in a game.

Essential Question, Level I: Knowledge

Assume that White made the mistake of playing 1.Qa5+ first. After the move 3...Qa7 stops the perpetual, how could Black easily win the position? Can you explain a clear step-by-step plan for Black to win?

Answer: Responses will vary, but should include clear and thoughtful ideas about how Black can win in this position. Example ideas:

- Trading pieces (because of a large material advantage possessed by Black)
- Attacking the White King position with the extra Rook
- Capturing on f3 to blow up the White King's position

Essential Question, Level I: Knowledge

What is the difference between repetition of position and perpetual check?

Answer: Repetition of position is when both sides repeat the same position, regardless of how many moves were played between those repetitions of that position. Perpetual check is more of a repeating pattern of either the exact same moves, or of the same piece checking the enemy King over and over, with that King having no ability to escape the perpetual outcome of the checks.



Essential Question, Level I: Knowledge

How is the 50-move draw rule applied advantageously for chess players?

Answer: Responses will vary, but could include:

- Prevents a game from going on forever.
- Prevents someone with poor winning technique from getting unlimited chances to get it right, if they were unable to execute a winning checkmate pattern before 50 moves went by.
- Prevents players from disrupting an entire tournament scene by making their game go on forever, delaying the start of the next round.

Appendix: Common Core State Standards Guide



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Common Core State Standards Guide

Kindergarten

CCSS.ELA-LITERACY.RL.K.1

With prompting and support, ask and answer questions about key details in a text.

Craft and Structure:

CCSS.ELA-LITERACY.RL.K.4

Ask and answer questions about unknown words in a text.

Range of Reading and Level of Text Complexity:

CCSS.ELA-LITERACY.RL.K.10

Actively engage in group reading activities with purpose and understanding.

Lesson 1, Part 1; See Lesson 8: Activities 1-3; See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RI.K.1

With prompting and support, ask and answer questions about key details in a text.

CCSS.ELA-LITERACY.RI.K.2

With prompting and support, identify the main topic and retell key details of a text.

CCSS.ELA-LITERACY.RI.K.3

With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. See Lesson 8: Activities 1-3

Craft and Structure:

CCSS.ELA-LITERACY.RI.K.4

With prompting and support, ask and answer questions about unknown words in a text.

See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RI.K.5

Identify the front cover, back cover, and title page of a book.

CCSS.ELA-LITERACY.W.K.2

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.K.7

With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

Range of Reading and Level of Text Complexity:**CCSS.ELA-LITERACY.RI.K.10**

Actively engage in group reading activities with purpose and understanding. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.W.K.2

Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. See Lesson 8: Activities 1-3; See lesson 10, Activities 1 and 3; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.K.3

Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. See Lesson 8: Activities 1-3; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.K.5

With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.K.6

With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

Research to Build and Present Knowledge:**CCSS.ELA-LITERACY.W.K.8**

With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. See Lesson 7: Activity 1 and 3; See Lesson 8: Activities 1-3; See lesson 10, Activities 1 and 3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.K.1.A

Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). See Lesson 1, Activity 1; See Lesson 2, Activity 1-2; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1 and 3; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.K.1.B

Continue a conversation through multiple exchanges. See Lesson 1, Activity 1 ; See Lesson 2, Activity 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3; See Lesson 12, Activity 2 ; See

Lesson 13, Activities 1-3 ; See Lesson 15, Activities 1-2 ; See Lesson 17, Activities 1-2 ;
See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2
CCSS.ELA-LITERACY.SL.K.2

Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. See Lesson 7: Activity 1 and 3 ; See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.K.3

Ask and answer questions in order to seek help, get information, or clarify something that is not understood. See Lesson 1, Activity 1 ; See Lesson 2, Activity 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6, Activities, 3and5 ; See Lesson 7: Activity 1 and 3 ; See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2, pg. 1-2

CCSS.ELA-LITERACY.SL.K.5

Add drawings or other visual displays to descriptions as desired to provide additional detail. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.K.6

Speak audibly and express thoughts, feelings, and ideas clearly. See Lesson 1, Activity 1 ; See Lesson 2, Activity 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; see Lesson 6, Activities, 3and5 ; See Lesson 7: Activity 1 and 3 ; See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3 See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.L.K.1.D

Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).

CCSS.ELA-LITERACY.L.K.1.E

Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with).

CCSS.ELA-LITERACY.L.K.1.F

Produce and expand complete sentences in shared language activities.

CCSS.ELA-LITERACY.L.K.5.A

Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

CCSS.ELA-LITERACY.L.K.6

Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

Geometry

CCSS.MATH.CONTENT.K.G.A.1

Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. See Lesson 1, Activity 1 ; See Lesson 2, Activities 1-2 ; See Lesson 3, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 1-2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 16, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activities 1-2 ; See Lesson 20, Activities 1-2

CCSS.MATH.CONTENT.K.G.A.2

Correctly name shapes regardless of their orientations or overall size See Lesson 1, Activity 1 ; See Lesson 2, Activities 1-2 ; See Lesson 3, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1 and 3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 1-2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 16, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activities 1-2 ; See Lesson 20, Activities 1-2

Know number names and the count sequence.

CCSS.MATH.CONTENT.K.CC.A.1

Count to 100 by ones and by tens. See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2

CCSS.MATH.CONTENT.K.CC.A.2

Count forward beginning from a given number within the known sequence (instead of having to begin at 1). See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2

Count to tell the number of objects.

CCSS.MATH.CONTENT.K.CC.B.4

Understand the relationship between numbers and quantities; connect counting to cardinality. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3 ; See Lesson 17, Activities 1-2

First Grade

Key Ideas and Details:

CCSS.ELA-LITERACY.RL.1.1

Ask and answer questions about key details in a text. See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3

Key Ideas and Details:

CCSS.ELA-LITERACY.RI.1.1

Ask and answer questions about key details in a text. See Lesson 8: Activities 1-3; See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RI.1.2

Identify the main topic and retell key details of a text.

CCSS.ELA-LITERACY.RI.1.3

Describe the connection between two individuals, events, ideas, or pieces of information in a text.

Craft and Structure:

CCSS.ELA-LITERACY.RI.1.4

Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RI.1.5

Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text;

CCSS.ELA-LITERACY.RI.1.6

Distinguish between information provided by pictures or other illustrations and information provided by the words in a text;

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.1.7

Use the illustrations and details in a text to describe its key ideas.

Range of Reading and Level of Text Complexity:

CCSS.ELA-LITERACY.RI.1.10

With prompting and support, read informational texts appropriately complex for grade 1.

Phonics and Word Recognition:

CCSS.ELA-LITERACY.RF.1.3

Know and apply grade-level phonics and word analysis skills in decoding words. See lesson 10, Activities 1-3 ; CCSS.ELA-LITERACY.RF.1.3.A

Decode regularly spelled one-syllable words.



CCSS.ELA-LITERACY.RF.1.3.D

Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RF.1.3.E

Decode two-syllable words following basic patterns by breaking the words into syllables. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RF.1.4.C

Use context to confirm or self-correct word recognition and understanding, rereading as necessary. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.W.1.2

Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.1.5

With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.1.6

With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. See Lesson 8: Activities 1-3, pg. 1-4; See Lesson 13, Activities 1-3, pg. 1-3

Research to Build and Present Knowledge:

CCSS.ELA-LITERACY.W.1.7

Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.1.8

With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

Comprehension and Collaboration:

CCSS.ELA-LITERACY.SL.1.1.A

Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). See Lesson 1, Activity 1 ; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1 and 3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12; Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.1.1.B

Build on others' talk in conversations by responding to the comments of others through multiple exchanges. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.1.1.C

Ask questions to clear up any confusion about the topics and texts under discussion.

CCSS.ELA-LITERACY.SL.1.2

See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.1.3

Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.1.5

Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3;

CCSS.ELA-LITERACY.L.1.1.G

Use frequently occurring conjunctions (e.g., and, but, or, so, because). See Lesson 8: Activities 1-3

CCSS.ELA-LITERACY.L.1.1.I

Use frequently occurring prepositions (e.g., during, beyond, toward). See Lesson 8: Activities 1-3 ;

CCSS.ELA-LITERACY.L.1.1.J

Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts

CCSS.ELA-LITERACY.L.1.4.A

Use sentence-level context as a clue to the meaning of a word or phrase.

Geometry:

Reason with shapes and their attributes.

CCSS.MATH.CONTENT.1.G.A.1

Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. See Lesson 1, Activity 1 ; See Lesson 2, Activities 1-2 ; See Lesson 3, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 1-2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 16, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activities 1-2 ; See Lesson 20, Activities 1-2

Represent and solve problems involving addition and subtraction.**CCSS.MATH.CONTENT.1.OA.A.1**

Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.¹ See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2

CCSS.MATH.CONTENT.1.OA.A.2

Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2

Add and subtract within 20.**CCSS.MATH.CONTENT.1.OA.C.5**

Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2

Second Grade:

Key Ideas and Details:

CCSS.ELA-LITERACY.RL.2.1

Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. See lesson 10, Activities 1-3

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.2.7

Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

Phonics and Word Recognition:

CCSS.ELA-LITERACY.RF.2.3

Know and apply grade-level phonics and word analysis skills in decoding words. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.W.2.2

Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.2.3

Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.2.6

With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

Research to Build and Present Knowledge:

CCSS.ELA-LITERACY.W.2.7

Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.2.8

Recall information from experiences or gather information from provided sources to answer a question. See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.2.1.A

Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4,

Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.2.1.B

Build on others' talk in conversations by linking their comments to the remarks of others. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.2.1.C

Ask for clarification and further explanation as needed about the topics and texts under discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.2.2

Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. See Lesson 8: Activities 1-3 ; See Lesson 10, Activities 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2

CCSS.ELA-LITERACY.SL.2.3

Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.2.6

Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2

CCSS.ELA-LITERACY.L.2.2.D

Generalize learned spelling patterns when writing words (e.g., cage → badge; boy → boil).

Vocabulary Acquisition and Use:**CCSS.ELA-LITERACY.L.2.4**

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.

CCSS.ELA-LITERACY.L.2.4.A

Use sentence-level context as a clue to the meaning of a word or phrase.

CCSS.ELA-LITERACY.L.2.6

Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy). See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3

Geometry:

Reason with shapes and their attributes.

CCSS.MATH.CONTENT.2.G.A.1

Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.MATH.CONTENT.2.G.A.2

Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. See Lesson 2, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 11, Activities 1-3; See Lesson 12, Activity 1-2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 16, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activities 1-2 ; See Lesson 20, Activities 1-2

Represent and solve problems involving addition and subtraction.**CCSS.MATH.CONTENT.2.OA.A.1**

Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. See Lesson 8: Activities 1-3

Add and subtract within 20.**CCSS.MATH.CONTENT.2.OA.B.2**

Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers.



See Lesson 2, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 2 ; See Lesson 8: Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2

Third Grade

Key Ideas and Details:

CCSS.ELA-LITERACY.RL.3.1

Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RI.3.5

Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.3.7

Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

CCSS.ELA-LITERACY.W.3.2

Write informative/explanatory texts to examine a topic and convey ideas and information clearly. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3 ;

CCSS.ELA-LITERACY.W.3.2.A

Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.3.2.B

Develop the topic with facts, definitions, and details.

CCSS.ELA-LITERACY.W.3.2.C

Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.3.2.D

Provide a concluding statement or section.

CCSS.ELA-LITERACY.W.3.3.C

Use temporal words and phrases to signal event order. See Lesson 7: Activity 1 and 3 ; See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1 and 3 ; See Lesson 13, Activities 1-3

Research to Build and Present Knowledge:

CCSS.ELA-LITERACY.W.3.7

Conduct short research projects that build knowledge about a topic.

CCSS.ELA-LITERACY.SL.3.1.A

Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.3.1.B

Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.3.1.C

Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.3.1.D

Explain their own ideas and understanding in light of the discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.3.2

Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See

Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.3.3

Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

Presentation of Knowledge and Ideas:

CCSS.ELA-LITERACY.SL.3.4

Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

CCSS.ELA-LITERACY.L.3.4.A

Use sentence-level context as a clue to the meaning of a word or phrase.

Key Ideas and Details:

CCSS.ELA-LITERACY.RF.3.3.C

Decode multisyllable words. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.RF.3.4.C

Use context to confirm or self-correct word recognition and understanding, rereading as necessary. See lesson 10, Activities 2

Geometry:

CCSS.MATH.CONTENT.3.G.A.1

Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.MATH.CONTENT.3.G.A.2

Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape. See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 1-6 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 1-2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 16, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activities 1-2 ; See Lesson 20, Activities 1-2

Geometric measurement:

Understand concepts of area and relate area to multiplication and to addition.
Recognize area as an attribute of plane figures and understand concepts of area measurement.

CCSS.MATH.CONTENT.3.MD.C.5.A

A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

CCSS.MATH.CONTENT.3.MD.C.5

A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

CCSS.MATH.CONTENT.3.MD.C.6

Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

Geometric measurement:

Recognize perimeter.

CCSS.MATH.CONTENT.3.MD.D.8C

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Fourth Grade

CCSS.ELA-LITERACY.RI.4.1

Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. See lesson 10, Activities 1-3

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.4.7

Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

Phonics and Word Recognition:

CCSS.ELA-LITERACY.RF.4.3

Know and apply grade-level phonics and word analysis skills in decoding words. See lesson 10, Activities 1-3

CCSS.ELA-LITERACY.W.4.2

Write informative/explanatory texts to examine a topic and convey ideas and information clearly. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.4.2.A

Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. See Lesson 8: Activities 1-3; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.4.2.B

Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.

CCSS.ELA-LITERACY.W.4.2.C

Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

Research to Build and Present Knowledge:

CCSS.ELA-LITERACY.W.4.7

Conduct short research projects that build knowledge through investigation of different aspects of a topic.

CCSS.ELA-LITERACY.SL.4.1.A

Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2



CCSS.ELA-LITERACY.SL.4.1.B

Follow agreed-upon rules for discussions and carry out assigned roles. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.4.1.C

Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.4.1.D

Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.4.2

Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

CCSS.ELA-LITERACY.SL.4.3

Identify the reasons and evidence a speaker provides to support particular points. See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 17, Activities 1-2 ; See Lesson 20, Activities 1-2, pg. 1-2

Presentation of Knowledge and Ideas:

CCSS.ELA-LITERACY.SL.4.4

Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

CCSS.ELA-LITERACY.SL.4.5

Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

Geometry:

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

CCSS.MATH.CONTENT.4.G.A.1

Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

Identify these in two-dimensional figures.

Generate and analyze patterns.

CCSS.MATH.CONTENT.4.OA.C.5

Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

Fifth Grade**Integration of Knowledge and Ideas:****CCSS.ELA-LITERACY.RI.5.7**

Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

CCSS.ELA-LITERACY.RI.5.8

Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

CCSS.ELA-LITERACY.RI.5.9

Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Phonics and Word Recognition:**CCSS.ELA-LITERACY.RF.5.3**

Know and apply grade-level phonics and word analysis skills in decoding words.

CCSS.ELA-LITERACY.RF.5.4.C

Use context to confirm or self-correct word recognition and understanding, rereading as necessary. See Lesson 10, Activities 1-3

CCSS.ELA-LITERACY.W.5.2

Write informative/explanatory texts to examine a topic and convey ideas and information clearly. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3



CCSS.ELA-LITERACY.W.5.2.A

Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.5.2.B

Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.5.2.C

Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.5.2.D

Use precise language and domain-specific vocabulary to inform about or explain the topic. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.5.2.E

Provide a concluding statement or section related to the information or explanation presented.

Research to Build and Present Knowledge:

CCSS.ELA-LITERACY.W.5.7

Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

CCSS.ELA-LITERACY.W.5.8

Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.W.5.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

CCSS.ELA-LITERACY.SL.5.1.A

Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.5.1.B

Follow agreed-upon rules for discussions and carry out assigned roles. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.5.1.C

Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.5.1.D

Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

CCSS.ELA-LITERACY.SL.5.2

Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.5.3

Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas:

CCSS.ELA-LITERACY.SL.5.4

Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.SL.5.5

Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
See Lesson 8: Activities 1-3 ; See Lesson 13, Activities 1-3

CCSS.ELA-LITERACY.L.5.4.A

Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.

Geometry:

Graph points on the coordinate plane to solve real-world and mathematical problems.

CCSS.MATH.CONTENT.5.G.A.1

Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

See Lesson 1, Activity 1; See Lesson 2, Activities 1-2 ; See Lesson 4, Activities 1-2 ; See Lesson 5, Activities 1-2 ; See Lesson 6: Activity 3 and 5 ; See Lesson 7: Activity 1-3 ; See Lesson 8: Activities 1-3 ; See Lesson 9, Activities 1-2 ; See Lesson 10, Activities 1-3 ; See Lesson 11, Activities 1-3 ; See Lesson 12, Activity 2 ; See Lesson 13, Activities 1-3 ; See Lesson 14, Activities 1-2 ; See Lesson 17, Activities 1-2 ; See Lesson 18, Activities 1-2 ; See Lesson 19, Activity 1 ; See Lesson 20, Activities 1-2

Classify two-dimensional figures into categories based on their properties.

CCSS.MATH.CONTENT.5.G.B.3

Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

CCSS.MATH.CONTENT.5.G.B.4

Classify two-dimensional figures in a hierarchy based on properties.

Authors	National Governors Association Center for Best Practices, Council of Chief State School Officers
Title	Common Core State Standards
Publisher	National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C.